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PREVENTIVE MEDICINE AND THE GENERAL PRACTITIONER

JOHN M. DODSON, M.D.
CHICAGO

Six years ago, at the first banquet of the American Association of Industrial Physicians and Surgeons, held in Detroit, I commented on the fact that the industrial physicians, in devoting the major part of their time and attention to keeping employees well, were pointing the way to the general practitioner. I then ventured the prediction that, in the not distant future, the "family physician" would become, in large part, the "family health adviser," and would find his largest usefulness and derive a large part of his income in the field of preventive medicine.

The time seems opportune for more extended discussion of this prediction. Recently at the conferences on medical education, which are held each winter in Chicago, there have been numerous expressions of opinion that, notwithstanding the remarkable and gratifying advance in medical education in this country in the last quarter century, decided, if not radical, changes are necessary if our medical schools are to graduate students who are trained to render the best service that modern medicine makes possible.

Recent discussions in many medical societies, as well as papers and editorials in medical journals, voice a pronounced dissatisfaction with existing methods of medical practice. At a conference held in Washington last March, on the call of Surgeon-General Cumming, of the U. S. Public Health Service, to discuss the future of public health in this country, perhaps the most important and illuminating revelation was the deduction from several hundred questionnaires returned by medical students that public health (preventive medicine) is not "being sold" to the young men and women who are interested in medicine. The large majority of them reply that the matter has never been brought to their attention, and the idea of public health service as a career has never been considered by them.

To the family physician, and especially to the young men and women who are just entering on the practice of medicine, the possibility of impending changes in the methods of medical practice and medical education is of vital interest. There is a widespread feeling of unrest in the medical profession—a feeling much accentuated by the late war. Many physicians formerly engaged in general practice in small towns and rural communities, on being discharged from the medical service of the army and navy, were unwilling to return to the arduous work and meager returns of rural practice; and complaint comes from many such communities that they are without medical service of any kind. Some would find the solution of this problem in the graduation of more physicians, with a lowering of the requirements of premedical and medical education, in spite of the fact that we still have in the United States one physician for about every 700 of the population—a ratio nearly twice that of any other country in the world; despite, too, the further fact that there is no way of forcing the more poorly trained physicians into rural practice—a fortunate circumstance, because no other group of practitioners have such imperative need of that self-reliance and resourcefulness which comes in large part from adequate preparation.

The passing of the "family physician" is predicted and deplored. Some would seek to restore him by eliminating much or all of the instruction in the specialties, restricting the medical curriculum along clinical lines to medicine, surgery and obstetrics. Others advocate a curriculum which would deliberately encourage preparation for exclusive devotion to a specialty, and provide service for the community by the plan of group practice.

There is much complaint of the disproportion between the fees commanded by the specialist and the modest fees of the general practitioner. This is the excuse sometimes offered for the vicious—indeed, criminal—practice of "fee-splitting"; that is, a commission paid the family physician by the specialist, usually a surgeon, without the knowledge of patient or family, for a case brought to him for operation. The family physician feels keenly the injustice to himself and the frequent harm to the patient which result from the growing custom of patients' guessing at the diagnosis of their own symptoms and resorting direct to the specialist of one sort or another, a plan which often results in unnecessary operation and leaves the patient no better, and frequently worse, than before. The widespread activity of pseudomedical cults, osteopathy, chiropractic, naprapathy, Eddyism and the like, is a constant source of aggravation to the honest, adequately trained physician, and the demand that there shall be one uniform standard of preparation for the practice of the healing art is logical and necessary for the public welfare. Parenthetically, it may be remarked that the necessary legislation to secure this end can come only through the education of the public, in whose interest and by whose elected representatives it must be enacted.

It is obvious, then, that important changes are coming in methods of medical education, and it is quite as certain, for reasons presently to be set forth, that in this evolution preventive medicine will come to play a much larger rôle than in the past.

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Preventive medicine is that science and art which seeks to prevent the occurrence of disease in the individual and to limit its spread in the community. It comprises (1) personal hygiene and (2) community hygiene and sanitation. Personal hygiene is that body of knowledge and practice by which each individual protects himself from disease, which might come to him by invasion from without or by disturbance of normal physiologic processes within his own body.

Modern community hygiene or public heath has perhaps been nowhere better defined than by Professor Winslow of Yale University: "Public health is the science and art of preventing disease, prolonging life and promoting physical health and efficiency through the organized community efforts for the sanitation of environment, the control of community infections, the education of individuals in principles of personal hygiene, the organization of medical and nursing service for the early diagnosis and preventive treatment of disease, and the development of social machinery which will insure to every individual in the community a standard of living adequate for the maintenance of health."

The general practitioner is intimately concerned with both of these phases of preventive medicine. In the matter of personal hygiene—much the more important of the two—if people are to be educated as to what makes for health and efficiency, and trained in proper habits of living and working, it is the physician—the family physician—to whom the community must look, primarily, for advice and instruction. The public health officials of any community, whose duty it is to set up safeguards of pure water and food supply, and to give attention to sewage disposal, sanitary housing, the institution of quarantine when necessary, the registration of vital statistics, and all other measures by which the community as a whole seeks to protect its members against disease—these officials are practically helpless without the cordial, intelligent, constant cooperation and support of the physicians of the community.

Preventive medicine, therefore, must come to have a larger place in medical education and practice for several reasons:

1. In this field, the physician can render the largest service to his patients.
2. It affords a source of income of which the family physician is in need.
3. Unless physicians render that service in the prevention and control of disease which modern medical science has made possible, other agencies will undertake this task.
4. Public health work—community hygiene—cannot flourish without the constant, intelligent support of the medical profession as a whole. Let us consider the items of this argument more in detail.

POSSIBILITIES OF SERVICE IN PREVENTIVE MEDICINE

The family physician can render the greatest service to his clientele by the preventing rather than by the curing of disease.

To one who is familiar with the stupendous progress in our knowledge of disease in the last sixty years, dating from the epoch-making discoveries of Pasteur, a progress which exceeds that of all the previous centuries, little argument is needed to make it clear that the practical benefits of this advance lie almost wholly in the field of preventive medicine. The hopes aroused by the discovery of the inoculation against hydrophobia, of antitoxin for diphtheria and of arsphenamin for syphilis that similar specific cures for other diseases would be found have not been realized. If we add to those already mentioned the serums for cerebrospinal meningitis and for tetanus or lockjaw, the cure of hookworm disease by thymol or other agents, and perhaps the use of emetin in cholera and of the acids of chaulmoogra oil for leprosy, we shall have included about all of the contributions to our therapeutic resources that have stood the test of experience. Even among these the prophylactic use of toxin-antitoxin against diphtheria and of antitetanic serum against lockjaw are far more effective as life-saving measures than their use after the disease has actually appeared. The indiscriminate use of vaccines of all sorts, and especially of shotgun combinations such as the so-called phylacogens, proved a delusion from which the profession seems happily to be recovering.

There has been an apparent, but only an apparent, loss to therapeutics through the demonstration by modern pharmacology of the inertness and uselessness of many of the drugs on which so much reliance was placed by the empiric practice of earlier times. The claims of most of these pharmaceuticals have been completely exploded by modern scientific investigation. The wise physician no longer believes that he is really benefiting his patient when he simply doles out to him a few pills or powders or a bottle of liquid medicine, or writes a prescription for them. A few, a very few, drugs have stood the test of accurate pharmacologic study and play a useful rôle in the physician's armamentarium; but the larger part of the resources of modern medicine in the treatment of the sick lies outside of the pharmacopeia. The wise physician has learned to beware the claims of the proprietary medicine manufacturer and of his detail man. The argument that experiment on animals cannot be used in drawing conclusions as to the action of drugs on human beings is, in large part, fallacious, and the so-called clinical proof, the testimony of bedside experience, must be interpreted with extreme care. Careless, inadequate observation of this sort has misled the medical profession more than any other kind of evidence.

Let us now set off against these rather meager gains in the field of therapeutics the tremendous achievements of preventive medicine: Yellow fever, one of the most dreaded and fatal scourges of mankind, all but abolished from the civilized world, even in its endemic focus in Ecuador; typhus, or ship fever, the dreaded tabardillo of the tropics, robbed of its terrors and made entirely controllable by the discovery of its mode of transmission, through the louse. During the World War, after thousands had succumbed to this disease in the Balkans and in Russia, the epidemic was promptly and completely arrested by the delousing of soldiers and civilians by relatively simple means.

Typhoid fever, the paratyphoids and the dysenteries, up to twenty years ago the most prevalent and fatal of army diseases, have been conquered through our knowledge of the modes of transmission, by provision of pure water and food, the detection and segregation of typhoid carriers, and inoculation against these diseases. Malaria, also by reason of the discovery of its mode of transmission by the anopheles mosquito, has been brought under control,

and vast areas of the most fertile and productive portion of the earth, hitherto all but uninhabitable by the Caucasian race, may now be occupied and cultivated by men of any race.

Cholera, once a frequent visitor to our own nation as well as to others, sweeping in vast pandemics from its endemic focus in India, has not visited the United States for a generation, and with constant watchfulness may be prevented from ever again becoming a scourge. The plague, likewise, has been all but exterminated, and may be completely abolished from the civilized world by the diligent application of our present knowledge.

These marvelous possibilities of modern sanitation and hygiene are not matters of mere theorizing but have been demonstrated on an enormous scale both in civil life and in wartime. One need but call to mind the wonderful accomplishments of the late General Gorgas and his staff in converting the Panama Canal Zone, once the most deadly pest-hole on the globe, into a region which presents an annual morbidity and mortality rate which compares favorably with that of the healthiest cities anywhere.

Contrast the awful experience of our own armies during the Spanish-American War and of the British in the Boer War—less than a quarter century ago—with that of the Japanese in the Russian war, and of all nations in that most terrific of all wars, the World War.

Through the civilized world, the experience of nations, states, cities and rural communities is equally gratifying as shown by statistics of illness and death. More than twelve years have been added to the average human life. The diseases of infancy and early childhood have been conquered to such a degree that in every well-conducted city the deaths in this early period of life are less than half what they were twenty or twenty-five years ago, in proportion to the population.

Of the achievements of modern surgery, it is unnecessary to speak to intelligent physicians or laymen—all made possible by the discovery of the microbic causes of wound infection and by aseptic technic, which is almost exclusively a preventive measure.

Progress has of necessity been slower in the growth of our knowledge of diseases of internal origin resulting from disturbed metabolism, excessive strain, mental and physical, defective heredity and bad habits of eating, living and working. Nevertheless, we already have accumulated knowledge which, if it could be transmitted to every individual so clearly and impressively as to induce him to cultivate and adhere strictly to correct habits of living, would result in an enormous reduction of human illness and an increase of human efficiency. To this great stock of knowledge, medical investigators are daily adding new increments.

With knowledge of all these facts, can one doubt for a moment that in medicine, more than in any other field, an ounce of prevention is worth many pounds of cure? Can one escape from the conviction that far and away the largest possibilities of service by the physician lie in the domain of prevention?

A SOURCE OF INCOME

One hesitates to use a commercial expression for fear that it may lead the reader away from the great truth that medicine is a profession of service, and the moment one abandons that point of view and substitutes money-getting as his chief goal, he sacrifices the great glory and satisfaction of a medical career. If, however, one were to use a frequent expression of the business world, one might say that preventive medicine is the "best goods" which the physician has to sell, and he is a poor merchant indeed who devotes his time to the display and sale of his poorer, less valuable goods, to the neglect of those which his customers—his patients—must soon discover are altogether the best goods for them to buy. And his patients are willing to pay for such goods, and the physician, to use another commercial phrase, "needs the money."

There is no doubt that the average income of the general practitioner, especially in the smaller cities and rural communities, has relatively declined in the last quarter century, and especially in the last decade. This decline is due to a number of conditions, some of which it is not easy to analyze. The very accomplishments of preventive medicine to which reference has been made have materially lessened the frequency and duration of many diseases. Typhoid fever, the infantile diarrheas, diphtheria and malaria were formerly sources of very considerable annual revenue to the average practitioner, yet he cannot but rejoice in the fact that these diseases have been so greatly lessened; and to the glory of the right-minded physician be it said that he has done all that he could do to bring about this result. The rapid development of hospitals and hospital practice, and the automobile and good roads have materially enhanced the capacity for service of the individual physician. He can give better and more efficient care today to two or three patients than he could give to one in earlier days, with the same expenditure of time and energy. While this factor has increased the income of some physicians, it has certainly diminished the average income.

The growth of specialism has doubtless affected the income of the family physician in some localities, but not to the extent that is often imagined. Specialism, of the right sort, does not take from the general practitioner work which he formerly did, but renders a service which was not possible before, and, properly used and controlled, greatly increases the service that medicine can render the sick.

The family physician of today is quite as competent as were those of previous generations to perform the minor surgical procedures, such as to remove foreign bodies from the conjunctiva or wax from the ear, to lance felons or boils, to reduce strangulated hernia or dislocations of joints, to dress the usual fractures, and to meet other surgical emergencies.

I doubt, too, that the medical cults, widespread as they are, materially encroach on the legitimate revenue of the really capable physician. Sooner or later, most of the foolish people who resort to these fads are compelled to seek the aid of scientific medicine, and they are very likely to need more attention and for a longer period than if they had not trifled with quackery of various sorts. The exploitation of the public by these cults is exasperating to the physician, but the real harm they do is not to him but to the public.

In the practice of preventive medicine, the practitioner has a legitimate source of income for service which he has heretofore, for the most part, given away in offhand suggestion and advice.

PREVENTIVE WORK OF OTHER AGENCIES

If the medical profession, and especially its largest, most important contingent, the family physician, does not assume leadership in this movement to prevent disease, other agencies will undertake the task. Indeed,

they are already doing this very thing. The social service worker, the public health nurse, the great benevolent foundations, have entered the field and are meeting the demand of the public for the institution of measures by which they may secure the benefits of modern sanitary science. Medical men are prone to underestimate the degree to which the public is already informed as to the developments of modern medicine and its possibilities in the prevention of disease. Perhaps the best evidence of this is the large amount of space devoted to health topics in the current literature of our time. Many of the leading newspapers print a health column every day edited by more or less—frequently, less—competent physicians. The periodical magazines circulating in the aggregate millions of copies seldom print an issue without one or more articles dealing with some achievement of medical science.

Now the significance of this fact is that the publishers of these newspapers and magazines are meeting a universal demand. They are not inspired by altruistic motives, and are not seeking to force on their readers information that they think they need but do not seek. They are printing material that will sell their product. Can one assume for a moment that a public so informed will fail to demand the institution of those measures of personal and community hygiene that will bring to them the beneficient fruits of modern medicine? No, the medical profession must make its choice. It may fight the irresistible movement of the people to secure these benefits, by community hospitals, health insurance, provision for the protection of maternity, the correction of remediable defects in schoolchildren, or the many other forms this movement may take; in which case, the profession will certainly be brushed aside or crushed as by a steam roller. Or the medical profession may recognize this trend and assume that leadership which it is its right and duty to assume. As leaders, it can direct these movements in such a way as to secure the largest possible benefits to the people as a whole and to conserve its own rights and emoluments. In any movement seeking the conservation of the health of the community, the highly trained, scientific medical man is the one indispensable factor. Any movement which seeks to secure his service at a wage which is not commensurate with the highly specialized training, skill and ability which the long, arduous and expensive modern medical education has secured for him, or which attempts to secure this service under conditions, by contract, or otherwise, that are obnoxious to any highly trained expert, must fail to secure the results that are sought. In the long run, that method of administering medical science, either preventive or curative, which best insures an adequate compensation and acceptable conditions of work to the physician is certain to insure the best returns to the community.

IMPORTANCE OF INTELLIGENT COOPERATION

The fourth argument—that public health cannot flourish without the intelligent, cordial cooperation of every physician in the community—is so obviously true that it needs no elaboration. Moreover, when medical students are fully informed as to the great advantages and the enormous possibilities of preventive medicine, there will be no dearth of men seeking service in the field of public health, because this phase of hygiene and sanitation is certain to make a strong and effective appeal to a large group, provided the conditions of public health work—reasonable wage, security of tenure of office and freedom from cheap and corrupt political interference—are insured.

How is the family physician to practice preventive medicine, to combine this with the present type of practice and to secure for such work a fair monetary compensation? This query can best be answered by pointing out what is already being done; for much more has been accomplished in this direction than is realized except by those who have surveyed the situation with some care.

The dentists were first in the field, and for some years it has been the custom of the good practitioners of dentistry to insist that the children especially, of their clientele, should be brought to them at regular intervals, three or four months, usually, in order that they may be trained in the proper care of the teeth, and the earliest signs of decay detected and arrested.

The infant welfare movement, inaugurated first among the poor by Budin of Paris in the so-called nourissons, has been the means of saving thousands of infant lives and of insuring sounder, stronger adults. This infant welfare movement has extended rapidly throughout the civilized world, at first as a charitable work; but within the last three or four years it has been translated into private practice. Many of the men engaged in pediatric work now secure a very considerable portion of their incomes from fees paid by mothers for advice in the care of their healthy, normal infants. The frequency with which such visits to the physician are made, at which the weighing and measuring of the child constitutes an impressive demonstration, varies, of course, with the zeal of the mother, the condition of the child and the judgment of the physician.

Similarly, it is rapidly becoming the custom in private practice for the prospective mother to seek examination and advice from the earliest stages of pregnancy, at intervals of from two to four weeks. In communities where this custom has for some time prevailed, as in New Zealand, the fatal accidents of labor, both to mother and infant, have been cut in half.

Reference was made in the beginning of this paper to the industrial physicians and surgeons. They, too, are pioneers in this field of prevention; for, in the best organized industrial establishments, the efforts of the medical department are almost exclusively devoted to keeping the employees well. Some of the great insurance companies have awakened to the life-saving possibilities of preventive medicine, and now offer their policyholders thorough examination at stated intervals for a small fee, or gratuitously. This, too, is not a philanthropic proposition, but one designed to reduce the number of death claims and conserve the funds of the policyholders.

A great national institution, the Life Extension Institute, organized by laymen, provides for its members a periodic physical examination, with medical advice to those found in need of it. This institute has made one serious mistake in setting a fee for its medical examiners that is utterly inadequate. There is a mistaken notion in the minds of most laymen and of many physicians that the physical examination of a healthy person demands less time and skill than that of one who is sick. The fact is quite to the contrary. A frank expression of disease, such as pneumonia, decompensation in cardiovascular affections, an acute infection—indeed, of almost any illness—should be recognized by the veriest tyro in medicine, although a thorough, complete examination must

always be made to insure the absence or detect the presence of obscure complication. To assure an apparently healthy individual that he is sound in all respects and free from any tendency to disease, able to withstand the stress and strain of the business in which he is engaged and of all the activities which make up his daily routine, requires an exhaustive, thorough examination that demands a high degree of skill and much time.

Many men, especially of large affairs, give evidence of their interest in this matter by subscribing to bureaus of urinalysis, paying a fee of from $10 to $25 a year for a quarterly report on the analysis of a specimen of urine sent to the laboratory. This is a practice that should be discouraged, because the examination of the urine alone is of little value. Many serious diseases which come on insidiously give no evidence of their presence in the urine. The person who is securing such reports at intervals from a clinical laboratory is lulled into a sense of security as to his health, and is extremely likely not to resort to his physician for a thorough, complete physical examination. Such an examination once a year is a far greater safeguard than an examination of urine every week.

A few wiser men, especially in the cities, make it a practice to seek such a thorough, comprehensive physical examination every few months or weeks.

To bring about the more general practice of preventive medicine, it is only necessary to extend the custom, now followed by a few, to all the people in any community. The action taken by the House of Delegates of the American Medical Association at the St. Louis session is evidence of the fact that the medical profession is aware that such examinations are important, and that they should be encouraged and facilitated. The resolution, passed by the House, as presented by the Council on Health and Public Instruction, reads:

> WHEREAS, The need and value of periodic medical examination of persons supposedly in health are increasingly appreciated by the public, it is recommended by the Council on Health and Public Instruction that the House of Delegates authorize the Council to prepare suitable forms for such examinations and to publish them in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION; and that the county medical societies be encouraged to make public declaration that their members are prepared and ready to conduct such examinations, it being understood that the indigent only shall be examined free of charge and that all others are expected to pay for such examinations.

To render adequate and satisfactory service to his patients in the matter of prevention of ill health, the family physician should visit their homes at such intervals as will enable him to know the conditions of their living and working, and to advise when changes in such conditions are essential for the welfare of the family or any of its members. He should know intimately the schools that the children are attending and should advise with their teachers, when necessary, as to their school life in relation to their physical well-being.

Is the medical profession, as now constituted, prepared to meet this demand, which, to some degree, it must create? Is the average family physician so educated as to the facts and possibilities of preventive medicine that he can render as effective service in this line as he is supposed to render in curative medicine? It must be acknowledged that he is not.

THE REMEDY

And the remedy: First, study must be undertaken by the general practitioners, preferably, in part at least, through special continuation courses, provided for this purpose at medical centers; and the publication of a journal which shall present the newer truths of hygiene and sanitation in attractive, readable form, both to the profession and to the laity. Happily, the House of Delegates of the American Medical Association was alive also to this need, not satisfactorily met by any of the existing journals, and therefore instructed the Board of Trustees to arrange for the publication of such a journal of hygiene.

Secondly, for the physicians of the future, the present and coming generation of medical students, a revision of our present curriculum must be made in such manner as to stress the importance and need of prevention as distinguished from cure. This does not mean anything like so radical a revision as might at first appear. The remedy does not lie in the injection of new courses in formal sanitation, hygiene, bacteriology and the like, into an already overstuffed curriculum, or the replacement of existing courses by such as these; at least, to any marked extent. It lies rather in a change of attitude of every instructor in every course given in the clinical branches. The possibility of the prevention of disease and the wound infections should be a dominant thought in the mind of every clinician at every lecture or demonstration. For example, every time a case of typhoid fever is presented, the clinician should propound to the class these queries: "When, how and why did this patient become ill with this disease? Who was at fault? How could it have been avoided? How can the extension of this disease to others in the community be prevented? What are the specific duties of the attending physician in such a case in relation to the patient, the nurses, himself, the family and the community health officer? Just exactly what steps, what precautions should he take in discharging his full duty to each of these?"

Similarly, in discussing a case of wound infection as of a hand, he should inquire how much infection could have been forestalled: Who was at fault in not instituting the proper measures at once when the wound was sustained, the ignorance or the neglect of the patient himself? or, if he was ignorant, Why have those in control of the establishment in which he is employed allowed him to remain uninformed as to what he should do when injured?

The education of medical students as to what constitutes preventive medicine in the several diseases and accidents of life can be much more effectively accomplished when these are discussed in relation to all other aspects of such disease or injury—its etiology, pathology, diagnosis, prognosis and treatment—than in courses which treat only of the preventive measures detached from other aspects of the subject. Preventive medicine is the "safety first" movement in the combat against illness, wound infection and death. Needless to say, there is a considerable body of information concerning bacteriology, hygiene and sanitation which is best taught as it is now, in a department devoted to those branches.

Thirdly, it must be emphasized at all times and in all places that the medical profession is above all a profession of service to mankind. While, in the interest of the physician, of his family, his fellow physicians and his patients, it is his right and duty to exact a monetary return for his labors that is commensurate with the long, expensive period of preparation which has been required of him and the high degree of skill

thus acquired, he makes the most grievous and fatal mistake if he yields to the spirit of commercialism which is abroad, seemingly in more intensive degree than ever before, and makes "money-getting" his dominant thought.

Imbued with that fine spirit of service, the wise physician of today cannot but realize that his largest avenue of usefulness lies in the field of the prevention of disease.

25 East Washington Street.

SURGERY FOR THE TUBERCULOUS

H. G. WETHERILL, M.D.
DENVER

This subject is presented on the basis of the following fundamental facts, which are assumed to be established and acceptable by those who have had the largest opportunities for studying tuberculous diseases in man, and who know the scope and limitations of surgery as a remedy for such diseases.

PREMISES

1. Tuberculous patients, particularly those with pulmonary tuberculosis, are *always* "substandard" surgical risks, and must *always* be so regarded when surgical measures are contemplated for their relief.

2. The delicate "balance of power" [1] existing between the disease and the resistance is easily disturbed, and the scales may be turned unfavorably by surgical operations through

(*a*) exposure,
(*b*) shock,
(*c*) loss of blood,
(*d*) undue prolongation of an unwisely chosen anesthetic,
(*e*) inspiration or other forms of pneumonia following anesthetics;
(*f*) lowered resistance and diffusion to new and previously uninfected fields,
(*g*) postoperative mixed infection,
(*h*) injudicious use of so-called "drainage,"
(*i*) lack of a proper appreciation of the paramount importance of physiologic rest.

3. A large majority of those who are doing general surgery have failed to appreciate the limitations of surgery in the treatment of tuberculosis, or the special precautions required for such surgical operations when necessary and justified, and in these particulars the general surgeon has much to learn from the orthopedic surgeon.

4. A careful, differential, bacteriologic study is essential to a complete understanding of the surgical requirements and limitations of suspected tuberculous abscesses and effusions, and ordinary open operation and drainage should not be employed till this investigation has been made.

SUBSTANDARD SURGICAL RISKS

Little need be said regarding Paragraph 1 of the premises as set forth in the foregoing prospectus. Whether or not it is accepted as true, my purpose in presenting it as a basis or foundation for what I have to say regarding the details of the second item of the synopsis will be served.

I believe that the statements made as premises are true and are fully and wholle justified by facts, and that the opinions of those who have had the largest opportunities to study tuberculous diseases and the relation of surgery as a remedy for the cure of either tuberculous or nontuberculous conditions in tuberculous patients will bear me out in these beliefs.

That tuberculous invalids, particularly those with pulmonary tuberculosis, are *always* "substandard" surgical risks, and that special precautions should *always* be taken in the preparation, operation and aftercare of such patients when surgical operations are performed on them would appear to me to be so evident as to require no argument. However, in dealing with some of the special precautions required, this phase of the discussion will be briefly taken up later.

My principal appeal will be made for the exercise of the greatest possible care in selecting cases for operation, and in doing the operation, when one must be done, in such a way as to permit of no harm coming to the patient as a direct or indirect result of the operation or any of the incidents connected therewith; all of which means the exercise of extraordinary surgical judgment in the choice of patients for operation, and unusual conservatism, patience and faith in the essential tendency of tuberculosis toward cure,[2] if mixed infections are avoided and the resistance of the patient is not impaired or broken down.

Failure to appreciate the importance of functional and physiologic rest of a tuberculous organ or part, mixed infections, malnutrition and lowered defensive resources or resistance to the disease and its complications are responsible for most of the deaths attributed to tuberculosis.

The orthopedic surgeons, as a class, have long understood the importance of functional and physiologic rest as an essential of treatment in tuberculosis, and many physicians and general surgeons have yet to learn that very important lesson.

The average orthopedic surgeon knows also that uncomplicated tuberculous processes, free from mixed infections, or at least free from mixed infections of certain types, which he checks bacteriologically, do better if open operations and "drainage" can be avoided, and reliance is placed in physiologic rest of the diseased part and such general supporting treatment as may be indicated.

DISTURBANCE OF BALANCE OF POWER BY SURGICAL OPERATIONS

Let us now consider in what respect the interests of the tuberculous patient may be served in the event of his developing a condition for the relief of which a surgical remedy is necessary, and what are the particular and special dangers against which he is to be safeguarded.

He is, of course, subject to all of those ordinary risks of operation that are unavoidable in every case, but he is also peculiarly susceptible to injury from other causes purely and solely because of his tuberculous condition and because his powers of endurance and resistance are impaired.

Much depends on the condition for which the operation is to be done, and in particular whether it is tuberculous or nontuberculous, for, unquestionably, with the

1. Wetherill, H. G.: The Balance of Power in Infection, Colorado Med. **14**: 168 (June) 1917; Tr. Western S. A., 1917.

2. The key note of successful treatment is the early detection of the disease. The tuberculin test, the roentgen ray and the necropsy table all confirm the well observed facts which prove that after 40 years of age most human beings have at some time in their lives had a little tuberculosis and recovered from it without ever having been aware of its presence (Trudeau, E. L.: An Autobiography, Philadelphia, Lea & Febiger, 1915).

former a special and particular technic in certain steps of the operation may be adopted, as will be pointed out later; and certainly the greatest care of all details in the patient's interest will be observed.

Exposure, shock, loss of blood, undue prolongation of an unwisely chosen anesthetic, and inspiration or other forms of pneumonia following anesthetics. These constitute real dangers to all patients undergoing surgical operations, but they have especially dangerous factors for tuberculous patients, since their disease diminishes their defensive resources and retards their recuperation.

Patients with pulmonary tuberculosis are very susceptible to injury from certain anesthetics when badly administered over relatively long periods of time, and are quite prone to pneumonia and lung abscess from inspiration of food, fluid and mucus from the nasopharynx, and the diffusion of their own sputum into previously healthy areas of one or both lungs.

The choice of the anesthetic, the time over which it is used, and the skill with which it is administered are vital factors in operations on those with pulmonary tuberculosis.

Briefly stated, my own conviction regarding anesthesia for surgical operations on the tuberculous is as follows:

Wherever and whenever possible, local infiltration anesthesia, preceded by small doses of narcotics or sedatives associated with atropin or scopalamin, are preferable to all other forms and varieties of anesthesia. In this connection it is proper to state that with the modern local anesthetics and apparatus now available, and the exercise of a reasonable degree of skill and patience, almost any surgical operation may be done without causing the patient undue pain or discomfort.

Next in safety and efficiency, in selected cases, I should place spinal anesthesia, and after that, for operations up to the limit of one hour in duration, chemically pure sulphuric ether, preceded by small doses of morphine and atropin to prevent anxiety and resistance, to reduce the quantity of anesthetic required, and to dry the fauces and prevent the deep inspiration of faucial, tracheal and bronchial secretions.

For tuberculous persons, nitrous oxid gas would have a small place in my armamentarium, and chloroform would be absolutely barred from all use, even to the extent of a few drops as a preliminary to ether. I regard chloroform as a deadly poison in such infected cases, and believe that it should never be used under any circumstances. Harold Styles of Edinburgh gave us that tip more than twelve years ago.

Lowered resistance and diffusion to new and previously uninfected field, postoperative mixed infection, injudicious use of so-called "drainage," and lack of a proper appreciation of the paramount importance of physiologic rest. These are essential and vital factors which one may do little more than mention in a short paper, for to treat of them exhaustively would require a volume of many pages, with an elaborate chapter to be given to each subject.

In the records of every tuberculosis sanatorium may be found the histories of many patients who have suffered from some of the foregoing consequences of injudicious surgery. One superintendent, in a letter recently received, says:

> The most discerning surgical judgment should be exercised when surgical measures are contemplated in tuberculous subjects. This spring a tuberculous girl of 18 was operated on for appendicitis. At the same time her diseased tonsils were removed. It not only upset her "balance of power" but so lowered her resistance that the tuberculosis, which was "quiescent," became reactivated. This is only one of many instances I could cite in which operators have lacked surgical judgment.

Any or all of the factors in the first group (*a* to *e*) may be responsible for lowered resistance and diffusion of the disease. New foci in the lungs, pleura, kidneys or abdomen may readily be established, or, as in the foregoing instance, quiescent foci may be reactivated. Pure tuberculous areas may be and are engrafted with other organisms, and so, serious postoperative mixed infections arise, as was often the case when open operations with open drains were used for empyema, psoas abscess, tuberculous appendicitis and peritonitis.

"DRAINAGE" OF TUBERCULOUS AREAS

This brings us to the consideration of so-called "drainage" of tuberculous areas.

It is difficult to be temperate in the consideration of this phase of surgery for tuberculous areas, as there are many intelligent and skilful surgeons who still believe that, in the tuberculous abdomen, for example, drainage is necessary, and that a rubber tube or a piece of gauze will drain—all of which is, of course, erroneous and entirely aside from the harm these foreign bodies are known to cause in admitting mixed infectious organisms, and causing persistent sinuses and fistula.

That such "drainage" is now known by many surgeons of the largest experience to be unnecessary and distinctly harmful; that every one who knows anything of surgery knows that, in serous cavities, tubes and gauze "drain" for only a few hours and always act as irritants with a distinct tendency to cause persistent sinuses with mixed infections and intractable fistulas, counts for nothing with him who has for years had the "drain habit" and is afraid to abandon it. There are, too, a few conservatives who never know what others have done or are doing, and who will continue to "drain" tuberculous serous spaces as long as they live.

Since the disastrous experience of the World War, it has dawned on the minds of many surgeons that rib resections and open drainage of empyema cavities, particularly the tuberculous ones, was a mistake, and in the due course of time it may be hoped that this experience will lead to the conviction that the same principle applies to tuberculous serous cavities elsewhere, particularly in the abdomen.

BACTERIOLOGIC STUDY AND PHYSIOLOGIC REST

This leads us to the consideration of the great importance of a differential bacteriologic study of supposed tuberculous areas, whenever possible, before any operation is advised or undertaken.

Here, the orthopedic surgeon has blazed the trail with his psoas, bone and joint abscesses, and has checked his operative surgery with his bacteriologic findings. He cleans and closes tuberculous abscesses, if he opens them at all, but he is much more likely to aspirate them to relieve tension, if necessary, immobilize them and assure them long periods of *physiologic rest.*

Though many physicians and surgeons have recently learned to apply these important, scientific methods and vital curative principles to tuberculous serous spaces elsewhere, especially to the pleura, the careful bacteriologic study of tuberculous serous spaces previous to operation is far from being universal, and the principal of long periods of physiologic rest as a preoperative or a postoperative procedure is not generally appreciated as it should be.

Even a tuberculous lung may be given long periods of almost absolute physiologic rest by the use of artificial pneumothorax after the method suggested by John Murphy at Denver in 1898, and quite satisfactory relative rest may be secured by keeping a patient in bed in a position which favors the use, principally, of the other lung and reduces the respiratory rate. Immobilization of bones and joints, including the vertebrae, has been reduced to an exact science by the orthopedist. Peristaltic arrest and relative physiologic rest of the abdominal organs may be secured by diet, confinement in bed, and small doses of opium or other well-known drugs; so it would seem that the important principle of physiologic rest may be applied to almost any organ or serous surface subject to tuberculosis.

SUMMARY

It would be unfortunate if I should in the least degree convey the impression that I am opposed to necessary surgery for tuberculous persons, whether it be for tuberculous or nontuberculous diseases. What I do plead for is that tuberculous patients may always be regarded as substandard surgical risks, and that they require special study and special consideration in every way when an operation is deemed necessary for them. In particular, the choice of the anesthetic, the manner of its administration, the time over which it is used, and the preparation and after-care of the patient are important determining factors in procuring good results. In all operations for known tuberculous conditions, a conservatism based on the well understood tendency of the disease toward recovery should be exercised; operations should be checked with a careful bacteriologic study, and the essential principle of physiologic rest should be employed both before and after operation.

Every possible precaution should be employed to prevent postoperative mixed infections, and to avoid diffusion and dissemination of the disease. As a means to these ends, futile attempts at "drainage," which is unnecessary and does not drain and does predispose to sinuses, fistula, hernia and delayed convalescence, should be strictly avoided.

Given a tuberculous invalid with an empyema, an ischiorectal abscess, broken down or suppurating lymphatic glands, a tuberculous testicle or kidney, or a peritoneal tuberculosis involving the fallopian tubes or appendix, a timely, carefully considered and dexterously done surgical operation will bring about results absolutely unattainable by any other means. These are the circumstances under which surgery accomplishes marvelous results and brings credit to the surgeon and life and health to the patient. It relieves him of his burden of constant toxemia, reactivates his defensive mechanism, and, restoring his recuperative "balance of power," enables him to win the fight he must otherwise have lost.

Such surgery is brilliant, triumphant and satisfying.

1127 Race Street.

Cholecystectomy in Venezuela.—The first surgical removal of the gallbladder in Venezuela was made by Dr. Salvador Córdoba on Feb. 16, 1917. The operation was a success; the second operation of the same character was performed by Dr. L. Razetti on Feb. 20, 1917. In his recent thesis submitted to the National Academy of Venezuela, Dr. Córdoba reviews the evolution of gallbladder surgery, since Jean Louis Petit made his first cholecystectomy in 1737 to the first excision of the gallbladder by Lagenbuch in 1828 and the subsequent general use of the operation.

BETANAPHTHOL IN THE TREATMENT OF HOOKWORM DISEASE

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AND
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During the last few years, considerable interest has been revived in the use of betanaphthol as an anthelmintic, particularly in the treatment of hookworm disease.

TABLE 1.—RESULTS OF PRELIMINARY EXAMINATION BY PLAIN SMEAR AND WILLIS SALT FLOTATION

Number Examined	Uncinaria			Ascaris			Trichuris		
	+	—	%	+	—	%	+	—	%
397	372	25	93.7	173	224	43.6	104	293	26.2

TABLE 2.—WORM COUNTS AFTER TREATMENT WITH BETANAPHTHOL AND CHENOPODIUM

Prisoner's Number	Examination of Stool			Worm Count After Betanaphthol				Worm Count After Chenopodium			
	H.	A.	T.	H.	A.	T.	Oxy.	H.	A.	T.	Oxy.
1	+	—	—	0	0	0	0	0	0	0	0
2	+	+	—	0	0	0	0				
3	+	+	—	0	0	0	0				
4	+	+	—	0	0	0	0				
5	+	—	—	0	0	0	0	1	0	0	2
6	+	—	—	0	0	0	0	6	0	0	8
7	+	—	—	0	0	0	0				
8	+	—	—	0	0	0	0				
9	+	+	—	2	0	0	1	1	2	0	3
10	+	+	+	5	0	0	0				
11	+	+	+	3	0	0	2				
12	+	+	—	6	0	0	12				
13	+	+	—	9	0	0	2	5	0	0	2
14	+	+	—	2	0	0	12				
15	+	+	—	4	0	0	0	0	0	0	2
16	+	+	+	12	0	0	1				
17	+	+	—	2	0	0	0				
18	+	+	—	26	0	0	0	0	0	0	0
19	+	+	+	3	0	0	20	0	0	0	0
20	+	—	—	12	0	0	0	3	0	0	0
21	+	—	+	3	0	0	0				
22	+	—	+	19	0	0	0	0	0	0	0
23	+	—	+	59	0	0	2				
24	+	—	—	68	0	0	0	0	0	0	4
25	+	—	—	11	0	0	0	1	0	0	0
26	+	+	—	6	0	0	0	3	0	0	0
27	+	—	+	1	0	0	0				
28	+	—	—	18	0	0	0	1	0	0	0
29	+	+	—	15	0	0	1				
30	+	—	+	36	0	0	2				
31	+	—	+	1	0	0	16	1	0	0	2
32	+	+	—	1	0	0	0				
33	+	—	—	0	0	0	26				
34	+	+	+	6	0	0	0				
35	+	—	—	4	0	0	0				
36	+	—	—	3	0	0	4				
37	+	—	—	7	0	1	0				
38	+	+	—	4	0	0	0	5	1	0	0
39	+	+	—	0	0	0	23				
40	+	+	—	6	0	0	0				
41	+	+	—	1	0	0	0	0	0	0	0
42	+	—	—	0	0	0	0				
43	+	—	—	2	0	0	0				
44	+	+	—	2	0	0	1	1	0	0	0
45	+	—	+	15	0	0	0				
46	+	—	+	2	0	0	0	0	0	0	2
47	+	—	—	8	0	0	0	1	0	0	3
48	+	—	—	1	0	0	0				
49	+	—	—	0	0	0	0				
Total				385	0	1	125	29	3	0	28

With the work of Drs. Smillie and Mhaskar in mind, it was decided to carry out experiments along similar lines in the Bogambra Prison at Kandy, Ceylon. The inmates of this jail are all men, the census varying from 250 to 350 prisoners. This number is constantly varying on account of new admissions, dismissals on completion of prison term, and transfer to other prisons. They are admitted from all parts of the island. The ages vary from 19 to 75 years, and the term of confinement from one month to thirty years.

The majority of the inmates are of the farming class, and their living conditions, on the estates and in their homes, have been such as to offer the optimal condition for infection with hookworm.

In this work every possible assistance was given by the prison superintendent, Mr. C. C. Woolley, and his staff. In only one case did a prisoner refuse to take treatment, and no attempt was made to force the issue. The work, therefore, was carried on under the most favorable conditions.

TABLE 3.—RESULTS OF TREATMENT WITH BETANAPHTHOL

	Uncinaria			Ascaris		
		Cured			Cured	
	Number	Number	Per Cent.	Number	Number	Per Cent.
Given first treatment.....	284	90	31.6	126	95	69.8
Given second treatment..	139	53	38.1	62	40	64.5

A preliminary microscopic examination was made of the stool of each inmate. In obtaining these fecal specimens, tins bearing the prison number of each of the inmates were issued to the jailer, who in turn supervised the distribution to the cells of the individual prisoners. Tins were issued in the afternoon when the prisoners were locked up for the night. The specimens were collected in the morning at roll call, and delivered to a special ward which had been turned over to us for laboratory work. Two coolies were detailed by the jailer to assist in the preparation of stools for microscopic examination, the Willis salt flotation method being used. These men also did the screening of stools for the recovery of worms. The work of the coolies was supervised at all times by the medical officer in charge of the work, and the treatments were all administered by the officer.

TABLE 4.—SEVERITY OF INFECTION WITH HOOKWORM

Hemoglobin From 75 Prisoners			Maximum Number of Worms Expelled by Any One Patient	Minimum Number by Any Patient	Average per Patient
Highest	Lowest	Average			
100%	60%	73.2%	68	0	8

Preliminary stool examinations of 397 prisoners showed a 93.7 per cent. infection with *Uncinaria*, 43 per cent. with *Ascaris* and 26 per cent. with *Trichuris trichiura*.

Betanaphthol in powdered form, in 50 grain (3.25 gm.) doses, was administered in one dose as the first treatment to all who were found positive for hookworm. No preliminary or later purge was given. Treatments were given at 6:30 a. m., before any food had been taken, and all prisoners treated were kept under observation in the special ward, in order to note any untoward effects of this drug. No food was allowed until four hours had elapsed after the treatment. In no case were any serious symptoms complained of by the patients.

Eight days after this initial treatment, stools from all patients treated were again examined for ova. This examination revealed "microscopic cures" in 31.6 per cent. of the hookworm cases and 69.8 per cent. of the *Ascaris* cases. No case was considered negative until three 2 by 3 inch slides had been thoroughly examined and no ova found.

A second treatment of 60 grains (3.9 gm.) of powdered betanaphthol was given to 139 of the patients showing ova in their stools after the first treatment. They were again kept under observation in the ward, and no food was allowed until five hours after treatment. No untoward effects were noticed following this heavier dose. In all cases treated, the prisoners returned to their regular work after the 11:30 a. m. meal.

Eight days after the second treatment with betanaphthol, stools examined for ova showed that of the 139 patients with hookworm disease, 38.1 per cent. did not show ova in their stools, and of the sixty-two with *Ascaris* infestation, 64.5 per cent. showed no ova.

The first treatment consisted of 50 grains of betanaphthol. The second treatment consisted of 60 grains of betanaphthol. It is interesting to note that of the 385 hookworms examined, not one ancylostome was found.

Thirteen out of fifty-four patients received two treatments with betanaphthol, and expelled no worms.

TABLE 5.—WORM COUNT ON FIFTY-FOUR CASES SELECTED AT RANDOM

	Number Examined	Uncinaria			Ascaris			Trichuris		
		+	−	%	+	−	%	+	−	%
Preliminary microscopic examination.....	54	52	2	96.3	24	28	44.4	15	39	27.9

Eight out of twenty patients received the test treatment with oil of chenopodium who had previously had two treatments with betanaphthol, and expelled no hookworms.

Stools collected from fifty-four selected patients showed a total of 441 *Uncinaria*, no *Ascaris*, two *Trichuris* and 139 *Oxyuris* worms. These were expelled after two treatments with two doses of betanaphthol. Of the twenty cases available for test treatment with oil of chenopodium, following the two treatments with betanaphthol, twenty-nine *Uncinaria*, three *Ascaris* and twenty-eight *Oxyuris* worms were recovered from the stools after treatment.

The microscopic examination of stools after one treatment with betanaphthol revealed an absence of ova in 31.8 per cent. of the cases of hookworm and 69.8 of the *Ascaris* cases, while the worm count showed thirteen out of fifty-four, or 24 per cent. of the *Uncinaria* cases and none of the *Ascaris* cases to be cured.

In the twenty patients given the test treatment with oil of chenopodium, eight expelled no hookworms,

TABLE 6.—MICROSCOPIC EXAMINATION OF STOOLS EIGHT DAYS AFTER FIRST DOSE OF FIFTY GRAINS OF BETANAPHTHOL AND AGAIN AFTER SECOND DOSE OF SIXTY GRAINS

	Number Examined	Cured			
		Uncinaria		Ascaris	
		Number	Per Cent.	Number	Per Cent.
After first treatment.....	54	23	44.2	16	29.6
After second treatment..	16	9	56.2	5	31.2

showing a cure in 40 per cent. of the patients who received two treatments with betanaphthol.

The prisons of Ceylon offer an unusual opportunity for research work in tropical medicine. Owing to the transient character of the population, they also afford an excellent medium for the transmission of public

health propaganda to all parts of Ceylon. The Bogambra prison has representatives from every province of the island. The average daily census for 1921 was 456, and the total admissions amounted to 1,641. It is to be hoped that our work will be followed by a more thorough study in all of the prisons of Ceylon.

TABLE 7.—WORM COUNT AFTER BETANAPHTHOL

No. Patients' Stools Examined	Uncinaria			Ascaris	Thichuris	Oxyuris
	Male	Female	Total			
54	121	320	441	0	2	139

An attempt was made to determine what effect the length of term of confinement in the jail would have on the degree of hookworm infestation. The excellent sanitary conditions of the prison have reduced the chances of reinfection to the minimum. Unfortunately, a sufficiently large number of prisoners in each class were not available to render this experiment as valuable as one would like, but the findings are recorded in the hope that further work may be done along this line in the tropics.

It is customary in the Ceylon prisons to work the prisoners on the roads and other work outside the prison compound. These men work in their bare feet, and are frequently exposed to ideal conditions for infestation with hookworm. Therefore, any attempt to draw conclusions from Table 10 would be useless. One man listed in the table had been in confinement for thirty years, yet hookworm ova were demonstrated in the stools.

An opportunity was afforded to determine the effects of betanaphthol as a vermicide by following the administration with a postmortem. A prisoner (a Singhalese

TABLE 8.—WORM COUNT; TEST TREATMENT WITH TWENTY-MINIMS OF CHENOPODIUM; STOOLS COLLECTED FOR THREE DAYS AFTER TREATMENT

No. Patients' Stools Examined	Uncinaria			Ascaris	Trichuris	Oxyuris
	Male	Female	Total			
20	17	12	29	3	0	28

man, aged 55) who was sentenced to be hanged, volunteered to take betanaphthol in any quantity that we cared to administer. The stool was positive for hookworm and *Trichuris*. He was undergoing a religious fast for two weeks prior to his execution, his diet consisting only of a small quantity of rice once a day. November 25, 50 grains of betanaphthol in the powdered form was given, and no preliminary or later purge administered. All stools were carefully collected from this time on until the execution. As the prisoner was not allowed to leave his cell at any time and was compelled to use a bucket for latrine purposes, there was no chance of loss of any of the material. November 27, another dose of 75 grains (4.9 gm.) was administered. All stools for forty-eight hours after the first treatment showed no helminths. The same was true for twenty-four hours after the second treatment. The stools following treatment from this patient were all unformed or semiliquid in consistency, containing considerable partially digested rice.

The prisoner was hanged at 8 a. m., November 28, and the necropsy was performed the same day at 9:45 a. m. Before the digestive tract was removed for examination, the different anatomic portions were securely tied off so that none of the contents could pass from one section to the next. The intestinal tract was removed, starting with a section of the pylorus and including the entire intestinal tract down to the rectum. The intestine was opened one section at a time, and the contents of each section were placed in a separate bucket. This material was examined for ova and parasites. Fifteen male necators were obtained from the washings of the fecal material found in the colon. One male necator was found attached to the jejunum near the duodenum, and a second attached to the mucous membrane of the third portion of the duodenum. Many ova in the eight and sixteen segmented stages were found in the fecal material from the descending colon and rectum. The mucous membrane of the small intestine was covered with a thick, tenacious mucus. On removal of this mucus, the mucous membrane showed numerous small petechial hemorrhages. The abdominal viscera were otherwise normal with the exception of the spleen, which was enlarged to about twice its normal size.

TABLE 9.—DEGREE OF INFECTION

Average number of uncinarias expelled from each of 54 patients after two treatments with betanaphthol	8
Average number of uncinarias expelled from each of 20 patients after test treatment with 24 minims of oil of chenopodium	1.45

Although this man received 125 grains of betanaphthol in two doses at a forty-eight-hour interval, no worms were ever recovered during life. At postmortem, however, seventeen necators were found, of which two were still firmly attached to the mucous membrane of the small intestine.

SUMMARY

The 397 prisoners examined are fairly representative of the island of Ceylon, since they come from all nine provinces. The infestation rate, as shown by microscopic examination of the stools, is 93.7 per cent.

The severity of infestation is well illustrated by the hemoglobin findings and worm count. The average worm count from fifty-four prisoners was found to be only eight. The average hemoglobin from seventy-five prisoners was found to be 73.2 per cent.

Betanaphthol, as an anthelmintic, administered in one portion without purge preceding or following, has produced "microscopic cures" in only 31.6 per cent. of cases after one treatment. After a second dose, following an eight day interval, it has produced "microscopic cures" in 38.1 per cent. of those cases remaining positive after the first treatment.

Although the microscope shows 69.8 per cent. of cures for *Ascaris* after the first treatment with betanaphthol, and a further 31.2 per cent. cure with the second dose, none of the stools examined for helminths showed *Ascaris*.

TABLE 10.—EFFECT OF CONFINEMENT ON DEGREE OF INFECTION

Term of Confinement, Years	Number	Result of Microscopic Examination			Per Cent. Infected		
		Uncinaria	Ascaris	Trichuris	Uncinaria	Ascaris	Trichuris
From 2-3	10	9	4	3	90	40	30
From 3-4	8	6	2	1	75	25	12.5
From 4-5	5	5	2	2	100	40	40
From 5-30	11	10	4	1	90	36	9.1

With the dose as used in this prison (50, 60 and 75 grains of powdered betanaphthol) administered in one portion on an empty stomach and without purge, not a single patient experienced any untoward effects.

A CASE OF HYPERSENSITIVENESS TO SILK*

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AND
GEORGE P. MEYER, M.D.
PHILADELPHIA

This case is reported because of its unusual features.

REPORT OF CASE

Miss C. V. A., aged 21, a college student, was referred for diagnosis and treatment of asthma, March 30, 1921. Her maternal great-grandfather had asthma, her maternal uncle suffered from eczema, a maternal first cousin, once removed, had asthma, and a paternal uncle had attacks of hay-fever. She had had all the diseases of childhood, also diphtheria and tonsillitis, and influenza of moderate severity, two years previously. The adenoids had been removed in childhood. She suffered many head "colds" each winter. There was a history of some dyspnea about fifteen months before following a severe cold. This was apparently very mild. The condition now complained of had developed about three months before and had been steadily growing worse. After the last attack, she was confined to the infirmary for a few days. The attacks developed in the evening before she went to bed, and usually occurred after an evening spent in Boston. The condition during the night was good, and there was no difficulty on arising in the mornings. There were no clues as to a possible cause.

The physical examination revealed nothing of interest except a mild chronic eczema. The urine showed considerable indican but was otherwise negative. The blood smear revealed 29.5 per cent. lymphocytes and 10.5 per cent. eosinophils.

Complete atopic tests were made according to Cooke's technic, with the ordinary inhalant and food groups. Positive reactions were obtained with house dust, rice and flaxseed, and with some of the less important foods. The reactions, while positive, were not very strong, and, outside of the rice as a possible constituent of face powders, did not agree with the history.

The patient returned to college with the advice to avoid face powders. During the remainder of the college year, attacks occurred about twice a week but were not very severe.

September 19, after stating that she did not suffer from urticaria or hives, the patient volunteered the information that "welts" developed on her skin whenever it came in contact with silk. She had noticed this ever since the attack of influenza, two years before. One waist in particular was so troublesome that she was unable to wear it, although the same waist had been worn for a number of years before without difficulty. September 21, this waist was brought to the office and was put on in our presence. The skin was perfectly clear at the time except for the mild eczema. Within fifteen minutes, a giant urticaria developed on the skin of the arms, neck and chest and down to the line of the underclothes, but was most marked on the arms. The suffering was quite real and 12 minims of epinephrin in two doses was given without producing a great deal of relief. The urticaria lasted twelve hours in spite of the fact that the waist had been removed at the first sign of trouble.

The two sleeves of the waist were then cut off, approximately 100 square inches, and extracted according to the method of Coca.[1] This was tested by the intradermal method of Cooke, one test being made in each arm simultaneously. This would make the total amount used in the test from 0.02 to 0.05 c.c. Within a few minutes (the exact time was not taken, but was not longer than ten minutes) the patient began scratching her palms, and coughing. Then urticaria became general; the eyes were red and the lids were greatly swollen, the nose watered and then was blocked completely by the swollen mucous membrane; the asthma became alarming and epinephrin was administered in liberal doses. Within two hours, the entire reaction was over, and the patient went home. This was a typical constitutional reaction. The patient had never experienced a similar attack.

A sample of the waist was then sent to the Philadelphia Conditioning House, which reported that the silk was heavily weighted and that the fibers were decayed. Through the courtesy of Mr. Edwin A. Russell and Mr. Henry Meyer the following information on the silk industry was obtained: The cocoon of the silkworm is made up of strands of an insoluble substance bound into a solid mass by a more soluble substance known as "glue." The cocoons are placed in hot water, which softens the glue; an end of the strand is then picked up and the entire strand is pulled out. A reasonable effort is made to rid the fiber of the glue, but we are informed that it is never possible to get the fiber entirely pure. In certain specimens, the glue may make up as high as 25 per cent. of the silk. The fibers are then "thrown" together to form a thread. This is done by a number of processes. Among the most common is one involving the use of neat's-foot oil. The threads are then "weighted." Here there are various processes involving the use of zinc, tin and silica as the weight. After this, the silk is dyed, usually with anilin dyes.

In our effort to find just where in all these processes the silk picked up the substance which had such a bad effect on our patient, Mr. Henry Meyer kindly furnished us with silk in all stages, up to the weighting process. These were extracted in the same manner as the original waist and tested. Our task was immediately simplified because a strongly positive cutaneous reaction was obtained with the extract of a single strand of silk just as it is taken from the cocoon. In this specimen, there is nothing but the filament and the glue which has adhered to it. There is little doubt that the reaction is due to the rather soluble glue and not to the relatively insoluble fiber. Four different extracts of silk have been tested and all the reactions have been strongly positive. These have included silk after throwing and after it has been thrown and boiled.

DOSAGE AND RESULTS

Date	Dosage C.c.	Results
10/ 8/21	0.0025	No reaction
10/27	0.005	Mild urticaria for three days
11/ 3	0.01	Mild asthma and urticaria soon after
11/10	0.01	Mild urticaria soon after
11/17	0.01	Mild urticaria soon after
11/26	0.0125	Mild urticaria and cough
12/ 3	0.0125	Mild urticaria, no cough or asthma
12/15	0.01	No reaction
1/20/22	0.011	No reaction
1/27	0.013	Considerable asthma and urticaria for 1½ hours
2/ 4	0.012	No reaction
2/16	0.013	With epinephrin, 3 minims; no reaction

Since this severe reaction, the patient has had only six attacks of asthma, and these have all been very mild and of short duration. Most of these have a direct connection with silk, such as pressing clothes. One attack came on when the patient was visiting a girl friend. They occupied the same bedroom, and the attack started while the friend, who wore silk underwear, was undressing. The attack was soon over and, after discarding a silk quilt, sleep was undisturbed. Needless to say, the patient does not wear any silk herself. During this period, there was an occasional mild attack of urticaria. The eczema has remained unchanged.

The frequency of this hypersensitiveness is rare. We have tested more than 200 patients and have distributed the extract to other workers, so that we can safely say no other reactions have been obtained in 500 cases of asthma and urticaria.

With the thought in mind that silk might be the sole cause of all three complaints, asthma, urticaria and eczema, especially when silk on other persons might cause considerable

* From the Laboratory of Physiological Chemistry of Jefferson Medical College.

1. Coca, A. F.: J. Immunol. 7: 163 (March) 1922.

difficulty, we thought ourselves justified in attempting hyposensitization.

This was done, and doses were given of the extract of her own waist, with the results presented in the accompanying table.

An attack of tonsillitis then interrupted the treatment, which has not been resumed. March 1, the patient tried to wear silk straps on her shoulders, and urticaria immediately appeared.

COMMENT

While the dosage used is undoubtedly open to criticism, it nevertheless indicates the great difficulty attendant on hyposensitization in certain cases. The smallest estimate possible of the dose used in the first testing would be 0.02 c.c. It was probably more than this. Thus, after four months of treatment, the patient was able to stand barely half the original dose, which gave such an alarming reaction.

Cooke and Coca [2] assert that hyposensitization is relative and temporary. To say this tolerance is only relative implies that there is a maximum beyond which it is impossible to hyposensitize. We know little or nothing about this implied maximum dosage. In the majority of cases, it is of no clinical importance. Usually, there is a clinical "cure" before the maximum is reached but in this case, we feel we are very close to the patient's tolerance for the silk solution, and yet the skin hypersensitiveness to externally applied silk remains approximately the same. There is a decided improvement in the asthma. This may be due entirely to the fact that the patient makes no attempt to wear silk (formerly silk was worn, care being taken to keep it away from the skin), or it may be the result of the injections.

It seems probable from this case that there are cases in which hyposensitization is effective to such a slight extent as to be of almost no value.

334 South Twenty-First Street.

2. Cooke and Coca: J. Immunol. 7: 219 (March) 1922.

THE ARTHRITIS OF SERUM SICKNESS *

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Most patients receiving considerable amounts of therapeutic serum develop serum sickness. Formerly this was most frequently observed following the administration of diphtheria antitoxin, but recently the introduction of larger doses of horse serum in the treatment of pneumonia and cerebrospinal meningitis has furnished more examples of this condition. Clinically, it is manifested during the second and third weeks following the serum treatment by fever, lymph node enlargement, urticaria and short, transitory leukopenia followed by leukocytosis. Another less frequent but very distressing symptom is joint pain and tenderness, the exact nature of which is but little understood. Up to the present time this manifestation has taken its name from the subjective symptoms.

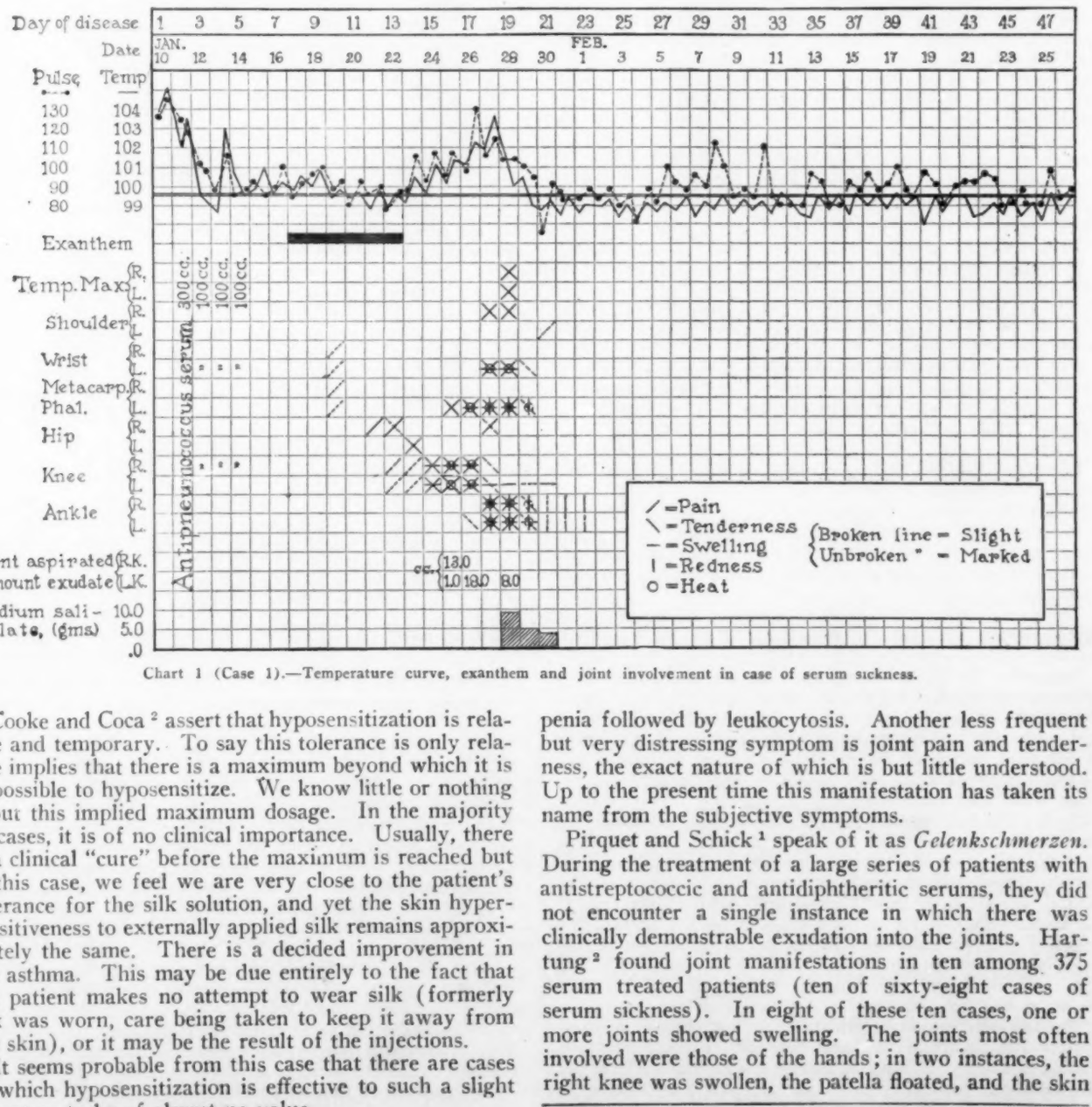

Chart 1 (Case 1).—Temperature curve, exanthem and joint involvement in case of serum sickness.

Pirquet and Schick [1] speak of it as *Gelenkschmerzen*. During the treatment of a large series of patients with antistreptococcic and antidiphtheritic serums, they did not encounter a single instance in which there was clinically demonstrable exudation into the joints. Hartung [2] found joint manifestations in ten among 375 serum treated patients (ten of sixty-eight cases of serum sickness). In eight of these ten cases, one or more joints showed swelling. The joints most often involved were those of the hands; in two instances, the right knee was swollen, the patella floated, and the skin

* From the Hospital of the Rockefeller Institute for Medical Research.

1. Pirquet, C., and Schick, B.: Die Serumkrankheit, 1905.
2. Hartung, C.: Jahrb. f. Kinderh. 42: 72, 1896.

was stretched and reddened. Goodall,[3] in describing the "complications" of serum sickness, states that "the most frequent of these is one which usually goes by the name of 'joint pains', but which is, I have no doubt, an arthritis." In certain of his cases, swelling of the joints occurred, but this was extremely rare; in the majority there was only pain with stiffness. In only

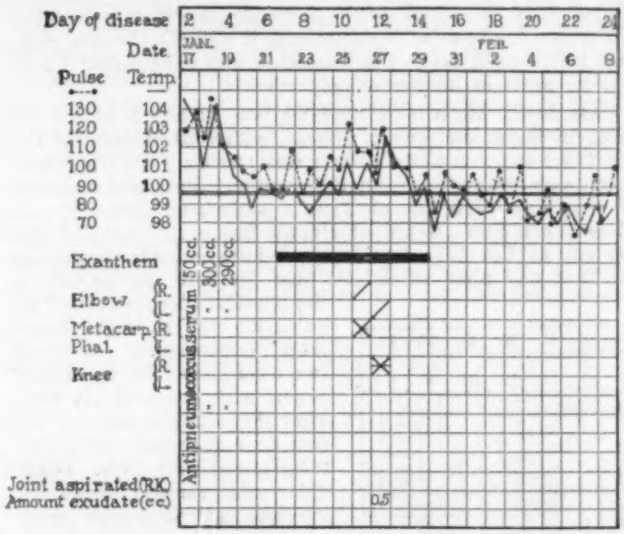

Chart 2 (Case 2).—Temperature curve, exanthem and joint involvement in case of serum sickness.

one of 376 patients having joint involvement did a relapse of arthralgia occur. Longcope[4] describes the condition under the term arthralgia. He says: "In comparison with the severity of the arthralgia, there is little to be observed. The joints are somewhat tender to the touch, but there is not, except in rare instances, swelling or reddening, and the joints are not hot to the touch. In only one instance have I seen a slightly swollen and red wrist." More or less joint symptoms were noted in about 20 per cent. of the cases of serum sickness observed by Weaver.[5] He found the pains to be spontaneous, and increased by motion and sometimes by touch. The severity of the pains was in marked contrast to the limited objective findings, and the pain disappeared in from one to three days, leaving the joints without permanent alteration. In his experience, swelling of the affected joints was unusual. Von Ritterstein[6] observed one case with swelling of the joints. Poynton and Paine[7] state that "antitoxic sera free from bacteria may sometimes produce effusion into the joints." Béclère, Chambon and Ménard[8] observed urticaria and symptoms of joint lesions in calves injected with horse serum. They state that microscopic examination of sections of the skin and joints revealed no evidence of inflammation.

Weaver[5] found that with doses of horse serum under 100 c.c. the frequency and intensity of serum disease was more or less in direct proportion to the amount introduced. Longcope and Rackemann,[9] and Mackenzie and Leake[10] have demonstrated that individuals receiving large amounts of serum fall into different classes according to their ability to react to the injection of the foreign protein. The majority produce antibodies readily and have severe symptoms; a smaller group produces no circulating antibodies and remains free from symptoms; the third group is intermediate between the other two.

In this hospital the occurrence of serum disease in patients treated intravenously with large amounts of Type I antipneumococcus serum offered an opportunity to investigate the character of this joint involvement and to compare the joint symptoms with the arthritis found in patients with rheumatic fever.

Ten cases of serum sickness have occurred in the last six months, six of which have shown mild or severe arthritic symptoms. One patient had pain only in the right shoulder; a second had pain in both shoulders and knees. Aspiration of the knees did not demonstrate an exudate. The remaining four had more severe joint symptoms extending over a longer period of time. In each, an exudate was demonstrated in one or more joints. In two of these, the exudates were evident both clinically and on aspiration; in the other two, no clinical signs of increased fluid could be determined, but aspiration yielded exudates. These last four cases were studied:

REPORT OF CASES

CASE 1.—J. H., a man, aged 29, was admitted, Jan. 10, 1922, on the first day of pneumonia. Physical signs indicated involvement of the left lower lobe. Blood culture yielded pneumococci, Type I. During the second day, 300 c.c. of antipneumococcus serum (Type I, New York State Board of Health, Lot 187 A) was given intravenously. On each of the three succeeding days, 100 c.c. of this serum was similarly administered. The patient's condition improved. By the sixth day, signs of resolution had appeared, and the patient's general condition was good. Serum disease began on the eighth day with a general urticaria, which persisted six days. There was no general glandular enlargement. Joint symptoms appeared on the third day of the serum disease, and continued for fourteen days. These were severe,

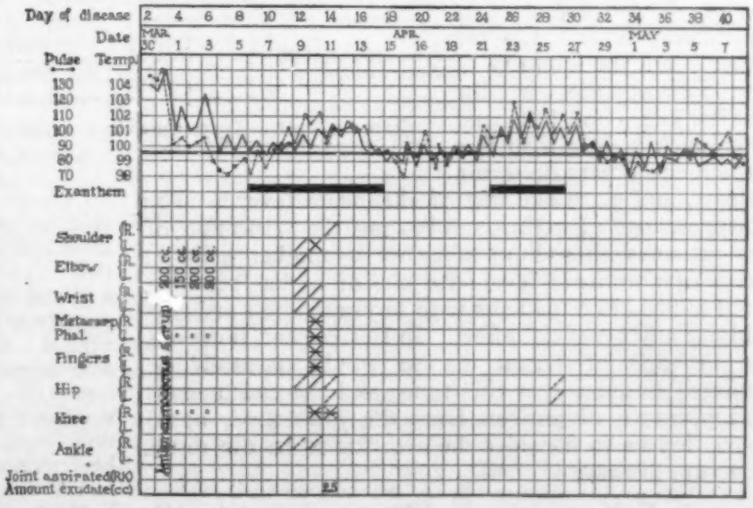

Chart 3 (Case 3).—Temperature curve, exanthem and joint involvement in case of serum sickness.

3. Goodall, E. W.: Lancet **1**: 323 (March 2) 1918.
4. Longcope, W. T.: Nelson Loose Leaf System of Medicine **2**: 632.
5. Weaver, G. H.: Serum Disease, Arch. Int. Med. **3**: 485 (June) 1909.
6. Von Ritterstein: Jahrb. f. Kinderh. **4**: 542, 1902.
7. Poynton and Paine: Researches on Rheumatism, 1913, p. 230.
8. Béclère, Chambon and Ménard: Ann. de l'Inst. Pasteur **10**: 567, 1896.
9. Longcope, W. T., and Rackemann, F. M.: J. Exper. Med. **27**: 341 (March) 1918.
10. Mackenzie, G. M., and Leake, W. H.: J. Exper. Med. **33**: 601 (May) 1921.

as can be seen in Chart 1, especially in the left wrist and the left metacarpophalangeal, knee and ankle joints. The right knee joint was aspirated on the ninth day of serum sickness, and 13 c.c. of rather turbid, opalescent fluid removed. On the ninth, tenth and twelfth days the left knee was aspirated and exudate recovered each time. Early, this exudate was turbid and opalescent, but later it was greenish-yellow, and only faintly turbid. Precipitin tests made by Dr. W. T. Longcope for the presence of horse serum in the joint exudate revealed, on the ninth day, 1:1,000; tenth day, 1:100, and twelfth day, 1:10. On the tenth day of the arthritis the patient was having so much pain that large doses of sodium salicylate were administered; this was followed by marked improvement. Salicylates were discontinued abruptly without the recurrence of joint symptoms. There was no evidence of cardiac complications. The patient has continued well since discharge from the hospital. He gave no previous history of rheumatic fever or arthritis.

The nature of the arthritis in this patient was the subject of considerable discussion. It appeared with other symptoms of serum disease and disappeared abruptly at the time a serum disease arthralgia would be expected to subside. The additional evidence of distinct amounts of antigen (horse serum) in the exudate early, at the height of the disease, and the almost complete disappearance of the horse serum from the joint two days later, when the symptoms subsided, are comparable with the findings in the blood serum of patients with serum disease. Painful temporomaxillary joints, such as this patient showed, are common in serum disease and rare in rheumatic fever. On the other hand, the intensity of the inflammation in the ankles, knees and left hand was much greater than that usually encountered in serum disease, and more like that of rheumatic fever.[11] The disappearance of arthritis following the saturation of the patient with sodium salicylate is another point in favor of rheumatic fever; for one of us has administered salicylates to patients with serum sickness arthritis without any beneficial effect. In this patient, however, the arthritis of serum disease would naturally be expected to subside at this time; and the concomitant disappearance of antigen from the joint fluid, noted above, led us to consider the arthritis to be the result of serum disease.

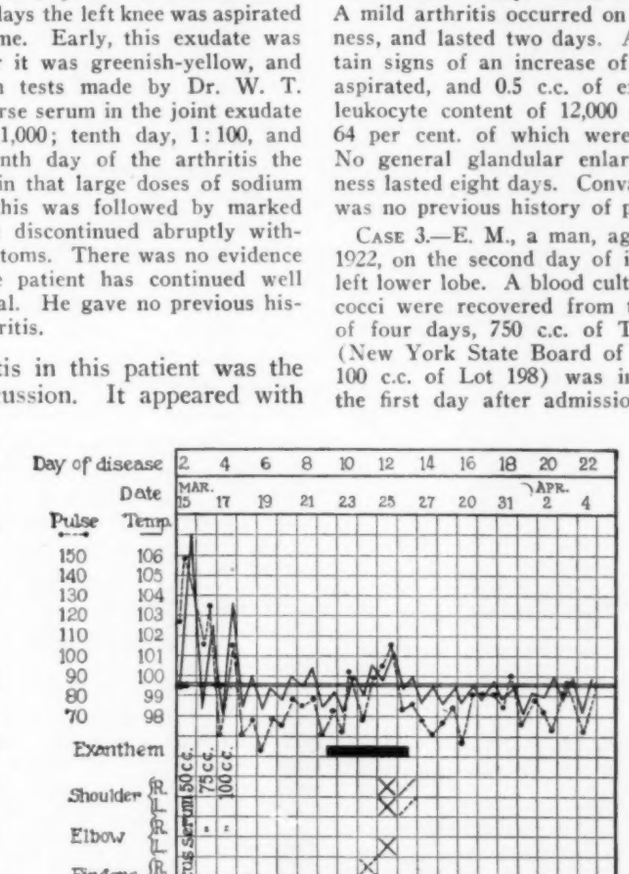

Chart 4 (Case 4).—Temperature curve, exanthem and joint involvement in case of serum sickness.

CASE 2.—N. M., a woman, aged 19, was admitted, Jan. 17, 1922, on the second day of pneumonia with consolidation of the right lower lobe. A blood culture was sterile. Pneumococci, Type I, were obtained from the sputum. During the second, third and fourth days of illness, 640 c.c. of Type I antipneumococcus horse serum (New York State Board of Health, Lot 187 A) was given intravenously; crisis occurred on the fourth day. Serum sickness began two days later. A mild arthritis occurred on the fifth day of the serum sickness, and lasted two days. Although there were only uncertain signs of an increase of fluid, the right knee joint was aspirated, and 0.5 c.c. of exudate was obtained, having a leukocyte content of 12,000 cells for each cubic millimeter, 64 per cent. of which were polymorphonuclear leukocytes. No general glandular enlargement occurred. Serum sickness lasted eight days. Convalescence was uneventful. There was no previous history of polyarthritis.

CASE 3.—E. M., a man, aged 24, was admitted, March 30, 1922, on the second day of illness, with consolidation of the left lower lobe. A blood culture was sterile; Type I pneumococci were recovered from the sputum. During the course of four days, 750 c.c. of Type I antipneumococcus serum (New York State Board of Health, 650 c.c. of Lot 196 and 100 c.c. of Lot 198) was injected intravenously, beginning the first day after admission. On the fifth day of illness the physical signs indicated an extension to the right lower lobe. Improvement occurred two days later. Serum disease began with urticaria six days after the administration of the first dose of serum. The exanthem lasted nine days. Glandular enlargement, glossitis and multiple arthritis were present; the arthritis lasted four days. Clinically, there was evidence of fluid in the right knee joint. This was aspirated, and 2.5 c.c. of greenish yellow, faintly turbid exudate was removed. The fluid contained 4,400 leukocytes for each cubic millimeter, of which 44 per cent. were polymorphonuclear neutrophil cells. A relapse of the serum disease, consisting of urticaria, increase in temperature and pulse, glandular enlargement and mild arthralgia, occurred after a free interval of seven days. It lasted eight days and was followed by an uneventful convalescence. There was no previous history of polyarthritis.

CASE 4.—L. B., a boy, aged 17, was admitted, May 15, 1922, on the second day of pneumonia, moderately ill with involvement of the right lower lobe. Blood culture was negative. Type I pneumococci were found in the sputum. Over a period of three days, 225 c.c. of Type I antipneumococcus serum was given intravenously, with return of temperature to normal. On the seventh day following the first serum administration, urticaria and general glandular enlargement appeared. A moderately severe multiple joint involvement developed two days later, and disappeared completely after three days. Although no definite evidence of swelling could be determined, the right knee was aspirated, and 0.75 c.c. of turbid exudate removed. This exudate contained 12,800 leukocytes for each cubic millimeter, the majority of which were mononuclear in type. The fluid was examined for the presence of antigen (horse serum); a positive precipitin reaction occurred with antihorse rabbit serum in a dilution of 1:15. The patient had serum sickness for six days, and recovered normally. He had had an attack of acute rheumatic fever with polyarthritis one year previously.

RESULTS AND COMMENT

In no case was arthritis evident until from two to five days after the appearance of the urticaria. The

11. At the time of correction of proof, a patient with definite serum disease is under observation. He shows not only pain and tenderness of all of the affected joints, but clinical evidence of effusion into the left knee from which 5 and 7 c.c. of turbid fluid was aspirated on the third and fourth days, respectively; 2 c.c. of fluid was also aspirated from the right knee, even though it showed no clinical evidence of effusion. The ankles showed pain, tenderness, swelling and local heat. This case seems to prove conclusively that marked evidence of inflammation may be found in the "arthritis" of serum disease.

duration of symptoms in a single joint varied from a few hours to nine days. A striking point was the disappearance of arthritic symptoms in all of the joints of a patient within twenty-four hours of the subsidence of fever. Although pain and tenderness were the only signs of involvement in many of the joints, the recovery of fluids having the character of exudates indicated that the process was inflammatory in nature. Moreover, the clinical examination of the joints in Case 1 revealed the intensity of the process in certain instances. The doubtful nature of this case has already been discussed. Taken alone, it would not be very conclusive; but a gradation of intensity from very mild to very severe is seen in comparing the cases in this order: 2, 4, 3, 1. Such clinical comparison leads one to conclude that all of the arthritic symptoms were due to a common cause—i. e., serum disease.

A description of the exudates is given in the accompanying table. Only the knees were aspirated because of the difficulty in obtaining fluid from smaller joints.

EXUDATES ASPIRATED FROM JOINTS OF PATIENTS WITH SERUM SICKNESS

					Leukocyte Count						
						Differential					
Case	Date	Joint	Severity of Inflammation at Time of Aspiration	Quantity Aspirated, C.c.	Total	Polymorphonuclear Neutrophils	Large Mononuclears	Small Lymphocytes	Polymorphonuclear Eosinophils	Pink Staining Cells with Pyknotic Nuclei*	Unclassified Cells	Precipitin Test for Horse Serum
1	1/25/22	Right knee	Marked	13.0	22,400	86.0	9.0	2.0	...	1.0	2.0	
	1/25/22	Left knee	Marked	1.0	.....	78.0	16.0	4.0	...	...	2.0	1:1,000
	1/26/22	Left knee	Marked	18.0	14,000	84.0	10.0	3.0	...	3.0	...	1:100
	1/28/22	Left knee	Swelling only	8.0	5,000	20.0	58.0	8.0	...	5.0	9.0	1:10 ?
2	1/27/22	Right knee	Marked	0.5	12,000	64.0	32.0	2.0	...	1.0	1.0	
3	4/11/22	Right knee	Slight	2.5	4,400	41.0	49.0	5.0	...	3.0	2.0	
4	5/26/22	Right knee	Slight	0.8	12,640	13.0	76.5	6.0	1.0	0.5	3.0	1:15

* These cells were of the same size as polymorphonuclear neutrophilic leukocytes; they had pink staining cytoplasm and pyknotic circular nuclei, single or multiple.

As only very small quantities of synovial fluid can be aspirated from normal joints, and as this fluid is partially devoid of cellular elements, it is safe to conclude that the recovery of 0.5 c.c. or more of turbid fluid constitutes definite evidence of exudation, especially as these fluids in every instance were microscopically abnormal. In general, the higher cell counts and greater proportion of polymorphonuclear leukocytes occurred in the more acutely involved joints; while the lower total counts and higher proportion of mononuclear cells were found in the fluids from joints mildly abnormal or longer inflamed.

These exudates were indistinguishable cytologically from many of those which we have recovered from inflamed joints of patients with acute rheumatic fever, intermittent hydrarthrosis, and chronic arthritis; and it is of importance to show that such exudates can be produced without the actual presence of bacteria.

The presence of horse serum in two of the joints and the constantly diminishing amount in one of them suggest a possible cause of the arthritis. It may be that in a patient whose tissues are allergic to horse serum the presence of that serum in the synovial cavities sets up an irritation in the lining membrane; and the disappearance of that serum may be the cause of the subsidence of this irritation. Although some workers have considered that the disappearance of the horse serum from the blood stream was due to the development of circulating antibodies, the more recent work of Mackenzie [12] has thrown some doubt on this opinion. In view of the uncertainty as to the relation between cause and effect in circulating antibody and antigen, it is impossible, at present, to be definite in reference to the effect of these substances in exudates.

12. Mackenzie, G. M., and Fruhbaar, E. L.: Proc. Soc. Exper. Biol. & Med. **19**: 269, 1922.

SUMMARY

Among ten patients with serum disease who had received large amounts of horse serum intravenously, there were six who showed definite joint involvement. From the joints of four of these it was possible to aspirate fluid having the gross and microscopic character of an exudate. From a fifth, in whom pain was the only symptom, no fluid could be obtained; the joints of the sixth were not aspirated. The positive findings in the synovial fluids from the four other patients, however, indicate that the arthritic symptoms in serum disease are due to an actual inflammation of the joints. The finding of horse serum in two fluids suggests that the irritation of the joint may be due to the presence of this foreign protein in an allergic tissue.

Clinically, the polyarthritis of serum disease is usually manifested by pain and tenderness of the joints, but in certain instances swelling, heat and redness may be present. The synovial exudate is microscopically indistinguishable from that occurring in joints of patients with rheumatic fever.

Activities of Pennsylvania State Board of Health Against Venereal Disease.—An intensive campaign against venereal disease has been conducted during the last three years by the genito-urinary division of the Pennsylvania State Board of Health. A complete list of the detention homes and genito-urinary clinics was distributed, giving their localities all over the state. Abstracts of state laws regarding prostitutes and quarantine were published, with a report on diagnosis and treatment of syphilis. Attractive colored, illustrated pamphlets on all subjects pertaining to health and disease prevention were widely distributed. A course of instruction on venereal disease was conducted at the Allentown Hospital by well known genito-urinary surgeons, and a play was given by the social workers on the same subject. Working plans of the health and morals committee of the venereal disease division were also published. The thirty-two detention homes are supported by the county or communities, the state furnishing the medical and nursing attention, including drugs and equipment. In the past three years, 72,000 ambulatory patients have received treatment, with no deaths. Five schools are being operated at strategic points where physicians receive a course in the treatment of venereal disease gratis. Through a recent law, the state department of health has had placed at its disposal a modern 400 bed hospital for the isolation, care and treatment of syphilitics. Instructive moving pictures, lantern slides, pamphlets and lecturers are obtainable on request from the education division of the health department for any community desiring them.

CORRELATION OF EFFICIENCY TESTS

SECOND REPORT

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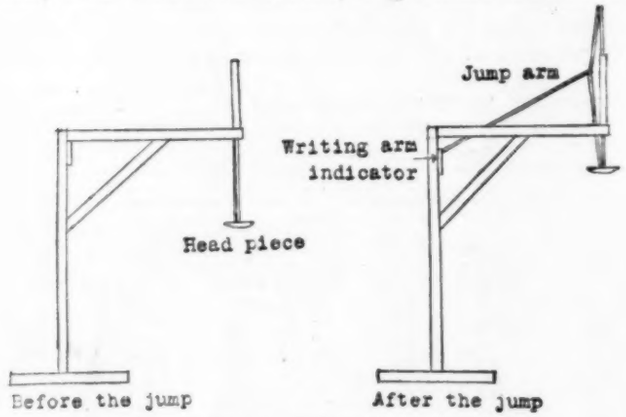
In a preliminary report [1] on correlation of efficiency tests, a high correlation was shown to exist between Schneider's tests of cardiac efficiency and Sargent's physical test. The group measured varied in age from 11 to 36 years. It was pointed out in that report, however, that the "wide age range of the group tested gives only a limited distribution of any one age, and hence repetition of the test with more homogeneous groups is needed to verify the obtained coefficient."

Such further study has been made. Under my direction, Miss Catherine Somers, a graduate student of



Apparatus employed for securing data in Sargent test.

Teachers College, carried on during 1921-1922 at the University of Nevada the Schneider and Sargent tests. In all, 108 college women were tested.

The apparatus used in securing the data in the Sargent test was specially devised. An upright supported on a base has a fixed arm, attached to which is arranged a head-piece made of cardboard with the lower side padded. The jump arm is attached to an indicating arm, which moves one-third the distance of the jump arm. The subject to have her jump recorded stands under the disk. The operator notes the point at which the indicator stands. The subject makes her greatest possible vertical jump, and the indicator stays at the point reached by the indicator arm. The operator notes the jump in inches and multiplies by three, giving the exact height jumped.

The tests with a homogeneous group of women show that for that age range (from 17 to 23) the two tests have no more relation than mere chance might produce. This lack of positive correlation in this group bears out the surmise made in the preliminary report, namely, that a wide range of age is unsatisfactory for tests of this kind.

The reports of these two tests suggest numerous questions that ought to be answered if there is to be any authority in the tests for physical fitness. What is physical fitness? Is the physical fitness of Schneider's test an entirely different fitness from the type measured in Sargent's test? Dr. Sargent calls his test "the physical test of a man"; but isn't it true that one might jump rather high in Sargent's test and rank low in Schneider's test? If fitness exists, it exists in some form, and hence is measurable if the proper procedure is followed. We need to have more evidence that the numerous proposed tests of physical efficiency are really measuring what the authors say they are.

The age range of the 108 women in the group studied was from 17 to 23 years, with the distribution given in the accompanying table.

AGE RANGE OF WOMEN IN GROUP STUDIED

Age	17	18	19	20	21	22	23
Number	7	39	27	16	11	6	2

Mean, 19.3

The coefficient of correlation of the entire group was 0.02. For the group of women aged 18, which numbered thirty-nine, a correlation of —0.004 was obtained. This homogeneous group therefore showed a negative correlation. Thus, there would seem to be practically no correlation at all between the Sargent and Schneider tests for women of the age range 17 to 23 years.

SUMMARY AND CONCLUSIONS

1. There was, in the group tested, virtually no correlation between the Sargent physical test and the Schneider cardiac test for women of the age range 17 to 23 years.

2. The rather high correlation of 0.57 previously reported [1] is doubtless a chance result and is due to the wide age range of the group tested, or to a possible difference between men and women.

3. The Sargent and Schneider tests do not measure the same thing. Vigor, stamina, "pep" that Dr. Sargent refers to are not the same qualities as are measured in Schneider's test.

4. Whether Sargent's test is a good measure of physical vigor has not been determined; likewise, the reliability of Schneider's test is not indicated by this study.

1. Finkelstein, William, and Williams, J. F.: Correlation of Efficiency Tests, J. A. M. A. 78: 1454 (May 13) 1922.

CONGENITAL ATRESIA OF ESOPHAGUS, WITH ESOPHAGOTRACHEAL FISTULA

REPORT OF THREE CASES *

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This most common of esophageal anomalies is interesting because of its peculiar development; and it is important for the reason that we have as yet no satisfactory means of dealing with the condition.

REPORT OF CASES

CASE 1.—W. D., a boy, white, aged 6 days, was admitted to the Jefferson Hospital, Dec. 26, 1917, because of inability to retain food. The child was born after prolonged labor, by forceps delivery, but seemed entirely normal at birth. When water was given, regurgitation occurred almost immediately, attended by attacks of dyspnea. Roentgen-ray examination revealed an obstruction of the esophagus, and esophagoscopy by Dr. Jackson established the diagnosis of esophageal atresia. Gastrostomy was performed on the day of admission, but the child died, Jan. 6, 1918, of bronchopneumonia.

Necropsy the same day revealed atresia of the esophagus, the upper portion being dilated and ending in a blind pouch about 1 cm. above the bifurcation of the trachea. The lower segment was smaller in diameter and entered the trachea posterolaterally just above the bifurcation. A probe passed

* From the Department of Pathology, Jefferson Medical College.

into the upper end of the trachea entered the lower segment of the esophagus and passed readily into the stomach (Fig. 1). No other malformations were found. The lungs showed bronchopneumonia, which was probably due to regurgitation of material from the stomach.

CASE 2.—H., an apparently normal white boy, born in the Jefferson Hospital, March 28, 1921, under the private care of Dr. Edward A. Schumann, to whom I am indebted for permission to record this case, was unable to swallow. Roentgen-ray examination by Dr. Borzel revealed complete obstruction of the esophagus in the upper third, on a level with the supersternal notch. March 31, a gastrostomy was performed, but the infant died the following day. Necropsy revealed an esophageal anomaly almost identical with that noted in Case 1, the upper segment of the esophagus ending in a blind sac about 1 cm. above the bifurcation of the trachea, and the lower segment opening into the trachea directly opposite the point at which the upper segment of the esophagus abruptly ended (Fig. 2). No other malformations were noted.

CASE 3.—J. H., a boy, white, aged 5 days, was admitted to the Jefferson Hospital in the service of Dr. Graham, Jan. 24, 1922, with the statement that the child was unable to swallow. Roentgen-ray examination revealed a complete stenosis of the esophagus at the level of the third dorsal vertebra. Gastrostomy was performed the same day. The child was later seen by Dr. W. H. Spencer, and a report was made that probably the lower segment of the esophagus opened into the trachea, thus accounting for the attacks of choking when the child was fed through the gastrostomy opening; and that the upper segment ended in a blind pouch, as revealed by the roentgen ray. This report was accompanied by a sketch correctly portraying the condition, as later demonstrated at necropsy. The child died, January 27, and the esophageal anomaly disclosed at necropsy was so nearly similar to the other two that a photograph was thought unnecessary.

COMMENT

Very little can be added to the comprehensive review of this subject published by Plass[1] in 1919, which included 136 verified cases collected up to 1917. Since that time, cases have been recorded by Cautley,[2] Brenneman[3] (four cases), Huntington,[4] Kastner,[5] Shaw,[6] Taglicht,[7] Reynolds and Morrison,[8] Hirsch,[9] Zausch,[10] Willard[11] and Shattock.[12]

Doubtless, there are many other cases that have failed to find their way into literature, so that the anomaly should demand our attention, if for no other reason than its relatively frequent occurrence.

The malformation is practically always the same, varying only in minor details. The upper end of the esophagus is usually dilated, ending in a blind sac at or above the tracheal bifurcation; and the lower end opens into the trachea at or near the bifurcation. Other anomalies may be associated, atresia ani being the most common.

The etiology is not clearly understood. Shattock[13] believes that, at the time when the pouch from which the lower air passages develop is formed from the anterior wall of the mesenteron, the posterior wall occasionally participates in the process sufficiently to be drawn forward, thus narrowing the lumen. When, subsequently, the lateral pouching for the formation of the larynx develops from the stomodeum just above this region, so much of the already narrowed lumen is consumed that the connection between the upper and lower portions is left communicating with the air passages.

Giffhorn[14] believes that the lateral folds from which the air passages develop unite at one point with the posterior wall of the esophagus, causing atresia; while below they are unable to unite in the normal manner in the midline, and thus permit a fistulous communication to remain.

The diagnosis is readily made. The child regurgitates almost immediately after taking food. Suffocative attacks, attended by choking and cyanosis, accompany the attempts to swallow. The stomach inflates with each inspiration, and the breath sounds are more audible than normal over the abdomen. The passing of a catheter into the esophagus under the fluoroscope, and esophagoscopy, make the diagnosis certain.

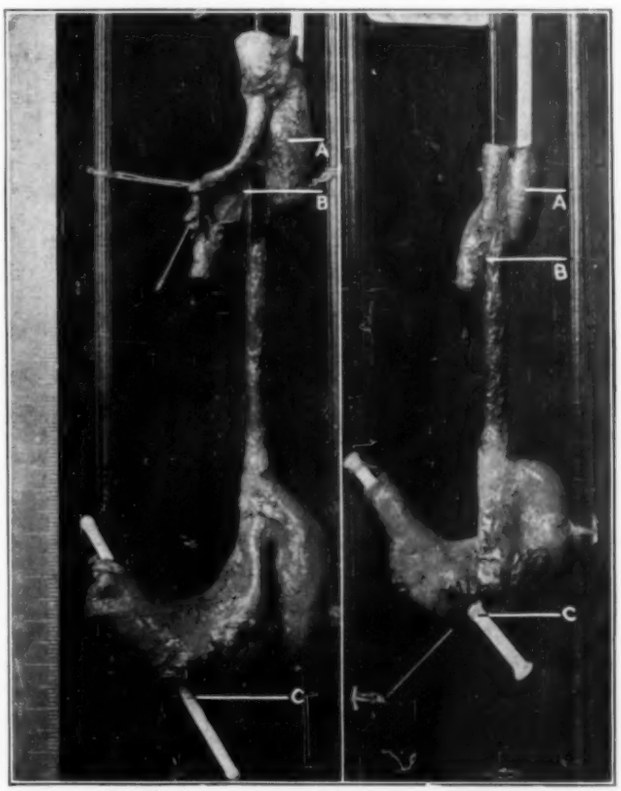

Figure 1 Figure 2

Congenital atresia of the esophagus with esophagotracheal fistula: the similarity of the anomaly in Cases 1 and 2: *A*, upper segment of esophagus, ending in a blind sac; *B*, lower segment of esophagus, communicating with the trachea (opened in Figure 1, unopened in Figure 2); *C*, gastrostomy opening.

From a practical standpoint, the most important consideration in regard to this anomaly is the hopelessness of our present day method of treatment. In a large number of cases (sixteen of the 136 compiled by Plass, and most of the other cases since reported) gastrostomy was done, but has invariably proved futile. Death from starvation is certain to occur if the infants are not operated on; and, if operation is done, they invari-

1. Plass: Johns Hopkins Hosp. Rep. **18**: 259-286, 1919.
2. Cautley, E.: Brit. J. Child. Dis. **14**: 1 (Jan.-March) 1917.
3. Brenneman, J.: Atresia of the Esophagus, Am. J. Dis. Child. **16**: 143 (Sept.) 1918.
4. Huntington, J. L.; Young, J. H., and Foot, N. C.: Boston M. & S. J. **180**: 354 (March 27) 1919.
5. Kastner: Arch. Pediat. **37**: 670, 1920.
6. Shaw, H. L. K.: Congenital Atresia of the Esophagus, with Report of Case, Am. J. Dis. Child. **20**: 507 (Dec.) 1920.
7. Taglicht: Virchows Arch. f. path. Anat. **229**: 322, 1921.
8. Reynolds, R. P., and Morrison, W. W.: Congenital Malformation of the Esophagus, Am. J. Dis. Child. **21**: 339 (April) 1921.
9. Hirsch, I. S.: Congenital Atresia of the Esophagus, J. A. M. A. **76**: 1491 (May 28) 1921.
10. Zausch: Virchows Arch. f. path. Anat. **234**: 94, 1921.
11. Willard, H. G.: Congenital Atresia of Esophagus, J. A. M. A. **78**: 649 (March 4) 1922.
12. Shattock: Proc. Roy. Soc. Med., Sect. Dis. Child. **15**: 2 (Feb.) 1922.
13. Shattock: Tr. Path. Soc. London **41**: 87, 1890.
14. Giffhorn, quoted by Taglicht: Virchows Arch. f. path. Anat. **192**: 112, 1908.

ably die from shock or hemorrhage, suffocation, or bronchopneumonia, the last probably due to regurgitation into the lungs of food introduced into the stomach. Plass states that, theoretically, jejunostomy would appear better; but, even so, it has been suggested that the presence of food would stimulate the stomach secretions, which would be regurgitated into the lungs and set up an inflammation. In one case, jejunostomy was tried and failed.

Richter [15] advocated gastrostomy plus closure of the upper end of the lower esophageal segment. Two patients were operated on; the first died soon after operation; the second lived for twenty hours.

It does not seem that these infants could stand the ordeal of chest surgery, and yet it is only to advances of surgery within the thorax that we can look with any hope for success in the treatment of this anomaly.

1906 Walnut Street.

OBSERVATIONS ON THE CORRECTION OF DEFORMITIES OF LONG STANDING *

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There has always been a difference of opinion with regard to the treatment of severe paralysis following anterior poliomyelitis. One group has contended that locomotion with braces and crutches was too difficult and painful to be of any advantage to the patient. It has maintained that such patients are dependent anyway, to the extent that they need assistance to get into their braces; and, such being the case, they might as well be allowed to sit about in peace with no attempt made to prevent the inevitable development of flexion contractions at the hips and knees.

Fig. 1.—Patient on admission, supporting himself on his hands.

Other surgeons take the view that deformity should be prevented as a matter of routine, and that deformity already existing should be corrected. They insist that a certain amount of independence is of great value, both practical and psychologic, to any patient, and that the possession of the power of independent locomotion, even if it means only the ability to move from room to room, or to escape from the house in case of fire, is worth the sometimes severe methods necessary to obtain it.

The following case is reported as supporting the latter standpoint, and because there are other instructive features to be noted in the study of a case of such long standing deformity.

In the first place, before undertaking the treatment at all, the patient should be made to understand that there is a grave chance of the reconstructive process being fatal. Such patients are rarely, naturally enough, in good condition. They frequently suffer from chronic bronchitis and are particularly susceptible to

Fig. 2.—Patient on admission: Limits of extension at the hips and knees.

postoperative pneumonia. Their bones are soft and filled with fat. There is danger that enthusiasm may lead to corrective measures so energetic as to interfere with the circulation. In the correction of flexion deformity at the knee, I have seen cases in which the blood supply to the foot might be entirely cut off by extension of the leg beyond a certain angle. The general circulation in the limbs is poor and all the tissues are atrophic, so that the development of pressure sores is likely. The patient must understand what he may anticipate as an end-result. He must realize that the age of miracles is past, and that all he can expect is the ability independently to haul himself about. He must be warned that it is impossible to say in advance what, or how many, operative procedures may be necessary. If he persists in his desire for improvement in the face of these warnings, the surgeon may proceed with a clear conscience.

Under the present somewhat inflexible methods of teaching, the student is frequently led to suppose that a given condition may be remedied by a given operation. Almost any student of orthopedic surgery would say directly that the way to correct flexion contraction at the hip was to perform a Soutter operation, and, if questioned further, would say that the essential feature of the operation consisted in separating muscles from their insertion rather than simply dividing them, and in chiseling off the anterior superior spine. In this case, the classic procedure was almost useless. The contractions at both the hips and the knees were of all the tissues, muscles, joint capsules, tendons and nerves. One cannot expect to correct such deformities at one sitting or by any standard operative procedure.

The astragalectomy and backward displacement of the foot, which was the initial operation, was done simply to eliminate lateral instability of the foot, and thereby provide a firm foundation for weight bearing. The greatest emphasis throughout was laid on deliberation, on doing too little rather than too much at one sitting, with a careful eye always kept on the circulation. One must remember that the blood supply may be cut off either by extreme tension, narrowing the caliber of the vessel, or by violence, tearing the intima and thus setting up thrombus formation.

The most important feature of the case to me is the evidence afforded by the roentgen ray of the knees as to the influence of functional use in the stimulation of calcium deposit in the bones. One sometimes reads of

15. Richter: Surg., Gynec. & Obst. **17**: 397 (Oct.) 1913.

* From the Hospital for Ruptured and Crippled, First Division.

fractures as being a cause of osteoporosis. It would seem more reasonable to infer that the osteoporosis was the result of the disuse of the limb incidental to the fracture. The patient's original roentgenograms revealed the same extreme degree of bone atrophy that may be noted in the patella. Being on the feet intermittently in plaster and braces for four months apparently caused the deposit of calcium in the femur and tibia, the weight bearing bones, but had no similar effect on the patella, which was subject to no strain, even from movement of the knee.

While at operation no change was noted in the cartilage covering the astragalus and tibia, the roentgenogram of the knees would strongly suggest almost complete disappearance of the joint cartilage. Whether this was simply a part of the general atrophy or was consequent on the trauma and strain occurring during the reduction of the flexion deformity, one cannot say. It is unfortunate, as it seems unlikely that the patient would develop more motion in the knees than he has at present—10 degrees. This will, of course, interfere with his comfort when sitting.

From a study of this case, it appears, therefore, that: 1. Deformities of indefinite duration may be successfully corrected. 2. Some patients, at least, seem to consider independent locomotion worth the risk of repeated operations. 3. No single operation may be exclusively relied on, and a combination of gradual mechanical and operative correction is required. 4. Functional use has a direct influence on calcium deposit in bone.

Fig. 3.—Patient at time of discharge.

REPORT OF CASE

History.—F. B., man, aged 52, single, with a negative past and family history, suffered from paralysis of both legs. He had had an attack of anterior poliomyelitis thirty-eight years previously, which resulted in complete paralysis of both legs. He has had no treatment, but had been examined recently in the clinic of the Vermont State Board of Health. Except for crawling on his hands and knees, he had since the onset been confined to a wheel chair, and during this period there has been a gradual development of flexion contractions at the hips and knees.

Physical Examination.—The patient was in good condition. The body and arms were well developed, and he could support himself on his arms, but could not walk. On the right side, there was complete paralysis of every muscle in the lower extremity; a flexion contraction of the hip at an angle of 130 degrees, and a flexion contraction of the leg on the

A B

Fig. 4.—*A*, almost complete disappearance of the joint cartilage; *B*, extreme osteoporosis of the patella.

thigh at an angle of 95 degrees. The foot was not deformed. On the left side, the tensor fasciae femoris was good. There was a trace of power in the internal and external hamstrings; otherwise, there was complete paralysis. There was a flexion contraction at the hip at an angle of 100 degrees; at the knee of 90 degrees. The foot dangled but was not deformed.

Operations and Treatment.—Dec. 21, 1921: Operation of astragalectomy and backward displacement of the foot on the right side was performed. The right angular contraction at the knee could not be overcome by the exercise of any ordinary force, the contraction appearing to be entirely general, of the skin, muscles and capsule. Plaster of Paris was applied, holding the foot and knee at a right angle.

December 28: The plaster was cut behind the knee and correction of the deformity by wedging begun.

Jan. 18, 1922: Right Soutter operation was performed. Tension on the femoral vessels and anterior crural nerve prevented extension at the hip beyond 160 degrees. A long plaster spica was applied, holding the thigh at 100 degrees and the knee at 110 degrees of extension on the leg.

February 8: Left astragalectomy was performed, with backward displacement of the foot. A plaster was applied to the limb in a similar manner. The contraction at the right hip was completely reduced by stretching. The right knee was brought to 135 degrees of extension.

March 8: Left Soutter operation was performed, attended by similar difficulty from the contraction of the vessels and nerves, with extension limited at 165 degrees. The right knee was brought to 165 degrees extension, the left knee to 110 degrees, and Billroth splints were incorporated in the plaster.

March 27: Stretching of the abduction contractions at the hips was carried out. The right hip was brought into line with the body and the knee into full extension. The left hip was brought to 25 degrees abduction, full extension, and the knee to 135 degrees extension.

April 27: Under gas anesthesia, the abduction contractions were entirely reduced. The left knee was brought to 170 degrees extension.

May 2: The patient was out of bed, standing on the feet.

May 23: The first steps were taken with assistance.

June 1: The patient was on his feet, attempting to walk with crutches.

July 6: The plaster was bivalved and the patient measured for braces.

July 13: Contraction of the left knee was entirely overcome under gas.

Outcome.—October 1: Since about August 1, the patient has had his braces applied and has been up every day, first, walking in a walking machine, but lately using crutches. His knees are almost entirely stiff. He states that he feels his improvement to be continuous and entirely dependent on his general strength. He feels that he can improve more rapidly at home and is therefore to be discharged at his own request. His condition is satisfactory. He himself is satisfied with the result. Roentgenograms of the hips reveal extreme bone atrophy of the femora and pelvis. There is practically no space between the head of the femur and the acetabulum, which would seem to indicate practically complete absence of cartilage. Roentgenograms of the knees show the bones in contact, apparently, a complete absence or destruction of cartilage. The appearance is practically that of an ankylosis following operative fusion of the knees. The decalcification of the bones is not so evident as in the roentgenograms of the hips.

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FATAL INFECTIONS FOLLOWING TONSILLECTOMY *

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AND
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Bacteria invade the tonsillectomy wound, and under certain conditions pass the surface barrier, producing a local or general infection. There are several reports in the literature describing these pictures. In Baum's [1] series of tonsillectomies, three patients developed abscesses in the peritonsillar tissues, and one developed suppurative adenitis of the entire cervical chain. These patients were all operated on under local anesthesia, and Baum suggests that the infection was carried into the tissues by the deep injection of the anesthetic substance. Among the general infections, Dean [2] reported three fatal cases. The temperature ranged from 101 to 103 F. and the glands of the neck were enlarged. On the third day there was difficulty in breathing and swallowing, followed by vomiting, delirium, visual disturbances, pus and blood in the sputum, scanty urine, convulsions and death. One of the patients had a sinus phlebitis, with exophthalmia and panophthalmitis. Another had a gangrenous process in the muscles of the neck with no localization or pus formation. Kerley [3] described a child of 2 years who developed discharging ears after tonsillectomy. Grayish white ulcerated areas appeared in the mouth, and the skin developed erythematous, hemorrhagic and pemphigoid lesions. The temperature reached 104 F., and death occurred in one month. In 14,960 tonsillectomies performed at the Royal Infirmary at Edinburgh from 1907 to 1920, Martin [4] reported six postoperative fatalities, four of which were due to sepsis. Bronchopneumonia developed in three.

Two cases of generalized infection following tonsillectomy are described; one a septicemia, the other a meningitis, both due to strains of pneumococcus.

* From the Sarah Morris Memorial Hospital for Children, of the Michael Reese Hospital.

1. Baum, H. L.: Ann. Otol. Rhinol. & Laryngol. **28**: 37 (March) 1919.
2. Dean: Laryngoscope **20**: 738, 1910.
3. Kerley, J. H.: Arch. Pediat. **39**: 462 (July) 1922.
4. Martin, G. E.: J. Laryngol. & Otol. **37**: 80 (Feb.) 1922.

REPORT OF CASES

CASE 1.—*History.*—D. M. R., a girl, aged 2 years and 4 months, had a sore throat lasting five days. In less than three weeks her tonsils and adenoids were removed under general anesthesia. She was apparently well at the time of operation. The mother was told that the tonsils were "full of pus" and the adenoids were "very large." She stated that the milk administered a few hours after the operation was sour to the taste. The child seemed befogged, and when she was removed to her home she asked where she was. That evening she was very hot and had several convulsive seizures. She was delirious and stuporous thereafter, and the convulsions continued for a few days. The temperature remained at about 103 F., and it was said that she refused food because of pain on swallowing. There was pain in the ear, but no discharge. The operation was performed elsewhere.

Physical Examination.—The child was first seen four days after the operation. She was lying in a semistupor, moaning, with head thrown back and mouth open. When aroused, she answered questions rationally. A foul odor issued from her mouth. The respirations were rapid; the cheeks were markedly flushed; the nose was pinched; there was deep scleral injection; the lips were glazed and red, as is often seen in septic processes. Moderate enlargement of the cervical glands was visible. Besides, there was general adenopathy. Signs of meningitis, such as the Kernig and Brudzinski phenomena, were absent, and the retraction was easily corrected. The abdomen was not rigid or distended. There were no abnormal findings in the heart or lungs.

The skin of the lower abdomen, thighs and legs was incompletely covered by a dull red, slightly raised macular eruption. There were normal areas of skin between the lesions. The rash appeared the day following the operation, but medicine had been administered before its onset. On the backs of the hands, particularly about the thumb and forefinger, were lesions of lichen urticatus, which antedated the operation. The throat was covered by a whitish exudate, which resembled the usual picture after tonsillectomy. When this material was swabbed, it proved to be caseous, and it crumbled on the slide. Direct smears contained a variety of cocci and an occasional bacillary form. There were no diphtheria bacilli. Cultures yielded the types present in the smear. There were no fusiform bacilli or spirilla in the direct smear. These findings were consistent with several subsequent examinations. Palpation of the pharynx because of the mouth breathing, enlarged cervical glands and opisthotonos revealed no masses. There was no retraction of the chest indicating laryngeal obstruction.

The clinical picture was that of septicemia from a throat infection. There was another possibility; namely, a blood dyscrasia, such as an acute lymphatic leukemia or the rare form of chloroma, which manifests itself by an ulcerative angina with an exudate like that present in this patient. The blood findings excluded these possibilities. There were 4,400,000 red cells, 75 per cent. hemoglobin, 11,500 white cells, with 76 per cent. polymorphonuclears, 12 per cent. lymphocytes, 8 per cent. large mononuclears and 4 per cent. transitionals. There were no abnormal cells. The urine contained a faint trace of albumin. A blood culture three days before death contained pneumococcus, Type II.

Course.—The child lived four days longer, growing progressively worse. The exudate extended so that it covered the uvula, palate, buccal mucosa, tongue and alveolar processes. A small area of harsh breathing developed in the right axilla, but there were no other signs of pulmonary involvement. The abdomen became markedly distended, but there was no rigidity, and the distention was relieved by enemas and high rectal tubes. Difficulty in swallowing and breathing became more marked. The pulse became weak,

thready and imperceptible, but was improved at times by injections of camphorated oil and a digitalis preparation. Fluids were supplied by mouth and by rectum. The father's whole blood was injected twice intramuscularly in 50 and 25 c.c. amounts. A single dose of 20,000 units of diphtheria antitoxin was administered because of the possibility of a diphtheritic infection, despite negative cultures, and because of the possible nonspecific protein effect on the process. There were no signs that the course was retarded by any of these measures. Parental suggestion for intubation or tracheotomy was vetoed because the retraction was insufficient to warrant such procedures, and because of the practical certainty of fatal pneumonic complications in the face of the severe local infection and probable tracheal involvement. Postmortem findings proved the wisdom of noninterference.

Necropsy Findings.—Necropsy was performed by Dr. O. T. Schultz with these findings: About the epiglottis and the laryngeal opening there was present the same grayish opaque pultaceous material noted in the buccal cavity. The lateral margins of the epiglottis were superficially ulcerated. The inner surface of the larynx was covered by a layer of grayish exudate. As in the mouth, this formed a thin, crumbly, granular layer which had none of the characteristics of a diphtheritic membrane. The mucosa of the trachea was congested; in its upper part were areas that were duller and grayer than the surrounding mucosa. The granular layer present elsewhere extended down into the esophagus, being heavier in the upper part of the esophagus than in the larynx. In its middle third, the esophageal mucosa was pale and dull; near the lower end of the esophagus, the mucosa became normal in appearance.

Microscopic Examination.—Larynx: In areas of considerable extent, the surface epithelium was absent; the exposed stroma showed little reaction. Where epithelium was present, it was covered by a thin layer composed of granular material, in which leukocytes were embedded. In the trachea below, the epithelium was moderately infiltrated with leukocytes. Esophagus: The inner surface was covered by a layer of material whose thickness equaled about one-fourth the diameter of a low power field. In some places, this layer was granular; in other places, it contained a coarse fibrin meshwork, and, in still other places, it was made up of leukocytes which were faintly stained and shadowy. Immediately beneath this layer was a narrow zone of dense leukocytic accumulation. This lay on the submucosa, which was edematous and diffusely infiltrated by polymorphonuclear and endothelial leukocytes. No epithelium was seen, and the entire thickness of the mucosa had disappeared or undergone necrosis (Fig. 1). The extent of the superficial necrosis was striking; in sections from the lower part of the middle third of the esophagus, the change was almost as intense as in the upper third.

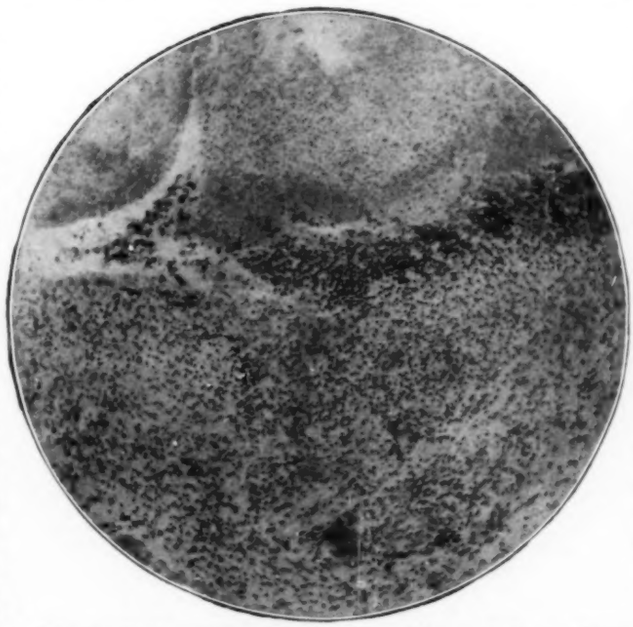


Fig. 1.—Section through esophagus, showing marked superficial necrosis. No epithelium is seen. Beneath the necrotic layer is a narrow zone of dense leukocytic accumulation. Beneath this layer is the edematous submucosa infiltrated by polymorphonuclear and endothelial leukocytes; × 110.

Bacteriology: In a postmortem culture from the pharynx, pneumococcus, staphylococcus and a few colonies of hemolytic streptococcus were present. The pneumococcus predominated; the number of hemolytic streptococcus colonies was not such as one usually obtains from the septic forms of pharyngitis. The heart's blood yielded pnuemococcus Type II.

There was an area of bronchopneumonia in the upper portion of the right lung, corresponding to the location of physical signs before death, in which harsh breathing was noted. The cortex of the kidney was cloudy and paler than the medulla. The convoluted tubular epithelium was swollen, and the small veins were engorged.

CASE 2.—*History.*—H. E., a boy, aged 7 years, began to manifest choreiform movements two weeks before tonsillectomy. The operation was performed at another hospital during the illness. He was discharged within twenty-four hours from the hospital in good condition. The next day his temperature rose to 105 F., and he was delirious. The temperature ran a septic course for a week, followed by two days' remission. This was followed by a chill lasting about an hour and subsequent rise in temperature. Daily thereafter, there occurred chills, fever and vomiting. A hacking cough was also present.

Examination.—On admission to the hospital, one month after the onset of chorea and two weeks after tonsillectomy, the child appeared acutely ill. The temperature was 102.4 F.; pulse, 160; respiration, 36, with considerable dyspnea. The pupils were unequal, and there was conjunctivitis in the left eye. Both ear drums were pearly gray. There was marked pulsation on the right side of the neck and slight pulsation on the left side. The neck was not rigid. The lungs were negative. There were many abnormal cardiac findings. The apex beat was diffuse. The left border extended to the anterior axillary line; the right border to the midsternal line. There was a double murmur at the apex and a diastolic murmur over the aortic area. Capillary pulsation was present. The liver was palpable, but not the spleen. The patellar reflexes were exaggerated. The Brudzinski and Babinski signs were positive; the Kernig was not definite. There were 3,600,000 red cells and 38,000 white cells, of which 88 per cent. were polymorphonuclears, 7 per cent. small mononuclears, 2 per cent. large mononuclears and 3 per cent. transitionals. The hemoglobin was 70 per cent. The urine was negative. Fluoroscopic examination revealed that the heart was wide at the apex and base, with no evidence of lung involvement.

Spinal puncture, the next day, yielded 30 c.c. of slightly turbid fluid under increased pressure. There were 640 cells, of which 64 per cent. were mononuclears and 36 per cent. polymorphonuclears. The globulin tests were faintly positive. Direct smears and cultures yielded no organisms. The Wassermann and Lange tests were negative. Twenty-five c.c. of antimeningococcus serum was administered intraspinally.

Course.—Following the puncture, the temperature rose to 107 F., and the pulse to 180; and morphin was required to quiet the patient. The following day, the temperature varied from 100.6 to 105 F. The child was semicomatose and manifested a subconjunctival hemorrhage on the left side. There was tenderness of the frontal and maxillary sinuses and throbbing of the right side of the neck. There were distinct signs of meningeal irritation. There was marked tenderness over the right carotid artery and jugular vein, but none on the left. Examination of the eyes showed edema of the left conjunctiva, haziness and opacity of the left cornea and old adhesions of the posterior part of the iris. The fundus was not visible. Apparently, this represented an old iritis and keratitis. There was retinal hyperemia on the right side.

A second spinal puncture yielded 30 c.c. of turbid fluid under increased pressure. A pellicle formed quickly. All

the globulin tests were positive. There were 1,067 cells, of which 75 per cent. were polymorphonuclear and 25 per cent. lymphocyte and endothelial. A direct smear contained gram-positive, extracellular diplococci. The culture of the fluid remained sterile. The blood culture of the same date yielded a luxuriant growth of pneumococci, Type I. The temperature was 104.8 F.; pulse, 64; respiration, 50, and irregular.

Another spinal puncture on this date yielded 30 c.c. of markedly turbid fluid under increased pressure. The globulin tests were all positive. There were 2,970 cells, of which 93 per cent. were polymorphonuclears. Direct smears from uncentrifugalized fluid contained large numbers of gram-positive diplococci, with very few cells (Fig. 2). Twenty c.c. of antimeningococcus serum and 9 c.c. of a 0.5 per cent. ethylhydrocuprein solution were administered. The child died shortly afterward.

Necropsy Findings.—Necropsy by Dr. O. T. Schultz revealed that both ventricles of the heart were increased in size. The aortic valve was ulcerated, and attached to its median segment was a grayish, soft vegetative mass, 1.5 by 1 cm. The anterior half of the left cerebral hemisphere was coated with a thin layer of opaque, yellowish exudate beneath the pia mater. The base of the brain was free from macroscopic exudate, although it contained an increased amount of cloudy fluid under the tentorium. The left middle ear contained a drop of thick, yellow pus. The ossicles appeared normal. The right middle ear was negative. There was unresolved pneumonia in the lower lobe of the left lung. Blood culture yielded pneumococcus, Type I.

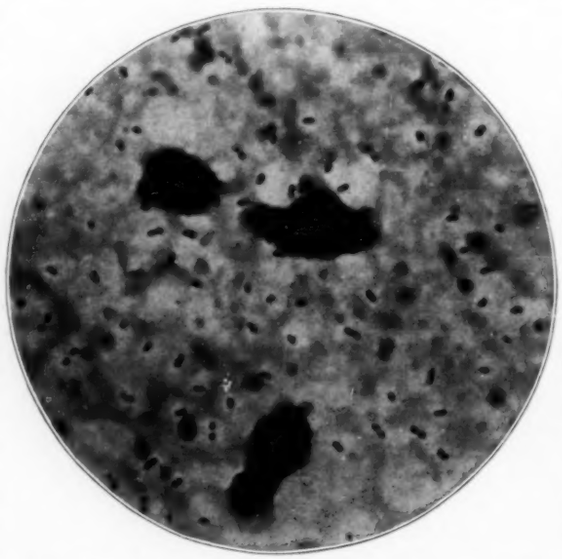


Fig. 2.—Direct smear of cerebrospinal fluid, showing large numbers of diplococci and few cells; × 1,200.

COMMENT

The findings in Kerley's case closely resemble those in our first case. In his case, the gums were swollen and there were grayish white ulcerated areas on the cheeks, tongue and lip, attended by fetid breath. This was not described in other reports.

The occurrence of a rash in our first case is interesting in the light of other reports. Dean quotes a case of LePlay in which infection followed tonsillectomy, accompanied by a scarlatiniform rash. He also mentions two cases of Fisher and thirty-four cases of Vingrave, in seven years, of surgical scarlet fever following tonsillectomy. Kerley's case manifested a variegated eruption, which may have been due to medication. Our case was definitely not the typical rash of scarlet fever. It was blotchy, raised and dull red and not in the usual location for a scarlet fever rash. A consideration of these skin eruptions merely adds further material to the data concerning skin eruptions associated with angina and bacteremia.

It is difficult to determine whether the chronic endocarditis in our second case had a direct relation to the septicemia, especially if Morris's [5] case is considered, in which there was a *Streptococcus viridans* septicemia and a chronic endocarditis, and no accident occurred after tonsillectomy. It appears plausible that an acute endocarditis may be precipitated from a chronic endocarditis by tonsillectomy.

The direct smear of the cerebrospinal fluid in our second case presents a picture often present in pneumococcus meningitis, as pointed out elsewhere,[6] namely, many pneumococci and few cells.

The bacteriology of the nasopharynx in children sheds some light on the occurrence of pneumococcic infection in our cases. About 50 per cent. of normal adult persons harbor the pneumococcus in the throat, the majority of which belong to Types III and IV. In 103 extirpated adenoids from patients from 5 to 16 years old, during April, May and June, 1920, Pilot and Pearlman [7] found 71.4 per cent. containing pneumococci, 85 per cent. of which belonged to Type IV, 13 per cent. to Type III and 2 per cent. to Type II. Furthermore, they found that the pneumococci rarely predominated in cultures from nasopharyngeal swabs. They were much more numerous in the crypts of the adenoids. In four cases they were recovered in pure culture. It appears that the pneumococcus is more frequently found in the adenoid than in the tonsil. In our cases, which occurred in the latter part of May, 1922, the necrotic process and septicemia were due to the Type II organism, and the meningitis and septicemia to Type I.

The occurrence of fatal infections following tonsillectomy emphasizes the necessity for caution. In the absence of acute local inflammation, the general immunity of the individual and the local resistance of the tissues to infection are usually sufficient to circumscribe the usual activity of the bacteria which invade the tonsillectomy wound. Otherwise, the infection may spread to the cervical lymph glands or tissues of the neck, producing the condition described by Dean. If the balance of forces is still more favorable to the organism, a generalized infection may supervene. These possibilities are more easily encompassed if local inflammation is present. In such cases the organisms are of greater virulence from the beginning, as is evidenced by the inflammatory reaction which they have produced. Therefore, it is the part of safety to wait until all local inflammation has subsided before creating any form of trauma to the region.

Despite this conservative view, many operators report the removal of the acutely inflamed tonsil without mishap. Buzard [8] removed the tonsils in a case of follicular tonsillitis. He reports that the temperature dropped from 104 to normal within three hours and that the only pain was that due to the operation wound. In twelve other cases he was likewise successful. Morris removed the tonsils without accident in twelve cases presenting joint pains. He advises this treatment for acute tonsillitis. Endocarditis did not develop in any of his cases, even though in one case *Streptococcus viridans* was present in the blood and there was an endocarditis previously.

5. Morris, R. S.: J. Lab. & Clin. Med. **2**: 168 (Dec.) 1916.

6. Levinson, Abraham: Cerebro-Spinal Fluid in Health and in Disease, St. Louis, C. V. Mosby Company, 1919, p. 200.

7. Pilot, Isadore, and Pearlman, S. J.: J. Infect. Dis. **29**: 47 (July) 1921.

8. Buzard, I. S.: J. Iowa M. Soc. **7**: 305 (Aug.) 1917.

Higginbotham [9] urges the removal of acutely inflamed tonsils, comparing the condition to acute appendicitis. He reports no complications in 500 cases. Holinger [10] has removed tonsils in all cases of peritonsillar abscess for seven years without mishap. According to these reports, complicating infections following tonsillectomy are not to be attributed to an active process in the tonsil or the pharyngeal tissue. The responsibility for the infection, therefore, becomes a question of balance of power between host and organism.

The course of our two cases leads us to favor delaying tonsillectomy in the presence of infection until all signs of acute inflammation have subsided.

25 East Washington Street—30 North Michigan Avenue.

SARCOMA (?) OF THIGH, WITH SECONDARY SARCOMA (?) OF INGUINAL REGION, LIVER AND LUNGS

RECOVERY AFTER INTENSIVE DEEP ROENTGEN IRRADIATION *

J. HENRY SCHROEDER, M.D.
CINCINNATI

The purpose of this report is to place on record what, so far as I have been able to learn, is the first successful attempt to treat by intensive deep roentgen irradiation a widely distributed sarcomatous invasion of deep tissues. I am able to demonstrate that it is technically possible and clinically permissible to administer to a patient over wide and separate areas of the body, within a limited period of treatment, the "sarcoma dose" of roentgen irradiation in the depth of each such area, with the result of the apparent disappearance of the neoplasm from all the involved areas.

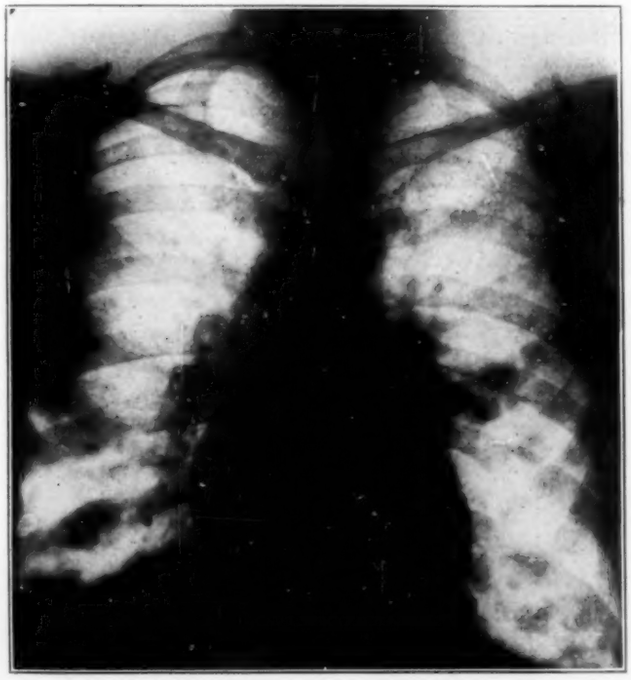


Fig. 1.—Lungs before roentgen irradiation, January, 1922, showing the characteristic shadows of secondary sarcoma throughout both lungs.

In order to establish the diagnosis, I give the complete history and clinical record. The excision of a specimen for histologic examination was, of course, not permissible.

Fig. 2.—Thigh before roentgen irradiation, with outline of sarcoma indicated by dotted line, because of faint print.

REPORT OF CASE

History.—H. M., a man, aged 50, was injured about three years ago by having his right thigh crushed. The present roentgenograms do not show any evidence that the bony structures of the thigh and knee were injured. He made a temporary recovery from his injury, but after about six months began to decline in health, with marked loss in weight. Digestive disorder was an early complaint. The injured leg became very painful, and the lower third of the thigh, the site of the previous injury, gradually enlarged. His physician made the diagnosis of sarcoma of the thigh and advised prompt amputation. The patient came to the hospital, and Dr. Samuel Brown, roentgenologist at the hospital, after the roentgenographic examination of the thigh, made the usual roentgen-ray examination of the chest, which revealed extensive and typical secondary sarcoma of both lungs (Fig. 1), and the results of the examination were so reported in the hospital records.

This brought to an end all surgical contemplations. When I was asked to see the patient at that time (January, 1922) to determine the practicability of intensive deep roentgen irradiation, I found the lower third of the thigh greatly enlarged, very painful and tender, and hard as a rock. The tumor mass could be outlined by palpation, and appeared as an easily definable, circumscribed neoplasm in the soft tissues of the thigh. It extended along the posterior and mesial tissues of the thigh to below the posterior aspect of the knee joint, completely disabling the patient. The inguinal region presented large and tender masses. An examination of the lungs disclosed impaired resonance over many areas of both lungs, and some moist râles. At this time nothing physically abnormal could be detected in the abdomen, although the

9. Higginbotham, I. L.: J. Kansas M. Soc. **16**: 42 (Feb.) 1916.
10. Holinger, Jacques: Ann. Oto., Rhinol. & Laryngol. **30**: 195 (March) 1921.

* Presented, with the patient, before the Academy of Medicine of Cincinnati, Oct. 23, 1922.

patient's complaint of indigestion suggested abdominal involvement. The liver was not enlarged, but became enlarged and painful later, as will be noted.

A roentgen-ray examination of the thigh revealed the outline of the tumor in the soft tissues of the thigh; the bony structures appeared normal (Fig. 2).

There was no history of syphilis. The Wassermann and Hecht-Gradwohl tests were reported negative. The blood count revealed: red cells, 5,135,000; white cells, 6,225; polymorphonuclears, 56 per cent.; eosinophils, 7 per cent.; large lymphocytes, 3 per cent.; small lymphocytes, 33 per cent.; large mononuclears, 1 per cent.

The *clinical* diagnosis appears to me as established through the evidently malignant type of the disease; through its history and course; through the character of the local lesion; through the occurrence of characteristic metastases, and particularly through the roentgenograms showing the typical shadows of deposits of secondary sarcoma of the lungs.

To this may be added, as if by way of confirmation, its response to deep roentgen irradiation, and the fact that the clinical diagnosis of sarcoma was repeatedly made by competent surgeons who examined the patient and indicated the case to me as hopeless.

Deep Roentgen Irradiation.—The ultrahard rays at 220,000 volts, and for the lungs at 200,000 volts, were used. The lungs received 70 per cent., and the other areas 80 per cent. of the surface erythema dose, in their depth. Four irradiation periods were required. During the first period, from January 21 to February 1, the thigh, inguinal region and both lungs were irradiated. Each region received the full dose in one sitting.

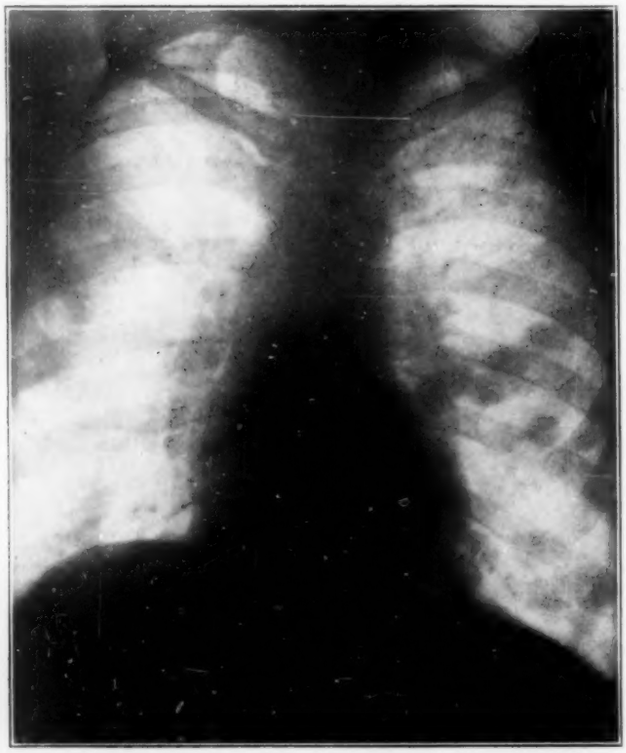


Fig. 3.—Lungs six weeks after the administration of the first roentgen irradiation dose.

The second period was from March 22 to March 27, during which the thigh and lungs received again the sarcoma dose.

The liver up to this time was not apparently enlarged, although the continued indigestion pointed almost certainly to an involvement of abdominal organs.

At the beginning of the third period of irradiation, June 29, the liver was found to be markedly enlarged and very tender, and at this time the liver and the thigh were each given the sarcoma dose.

During the fourth period, August 31, the thigh received its last irradiation.

Results.—The extensive irradiation was well tolerated. There were at no time alarming blood changes after the various doses.[1] After the first period of irradiation, the patient gained 23½ pounds (10.7 kg.) in weight within six

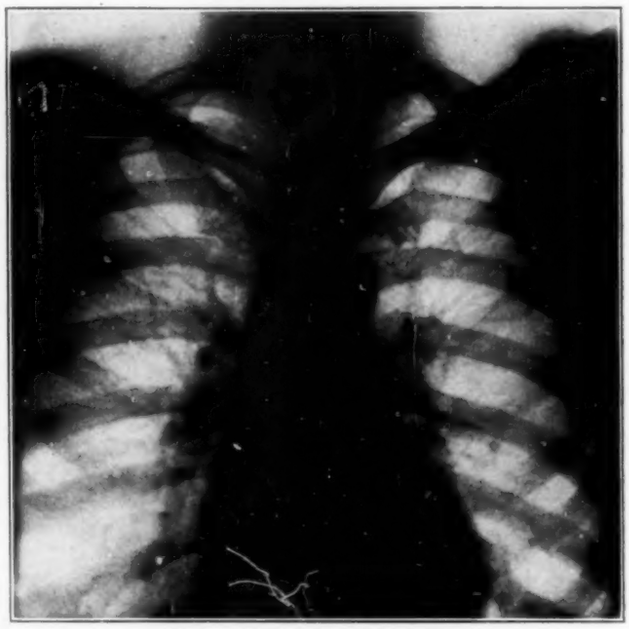


Fig. 4.—Lungs six weeks after the second roentgen irradiation dose: All metastases have entirely disappeared.

weeks. The lungs were examined ten days after the first irradiation, and Dr. Brown reported that the roentgenogram revealed the deposits in the lungs to be less dense and circumscribed, indicating partial absorption. The lungs became entirely clear after the second dose, and on June 26 Dr. Brown reported, after a roentgen-ray examination, that all metastases had entirely disappeared (Fig. 4). A final examination, October 23, reveals that the lungs have remained clear.

The masses in the inguinal region disappeared after one irradiation.

The liver became of normal size after the application of one irradiation dose, and all tenderness disappeared. The patient called attention to the fact that he had never experienced such an improvement in his condition after any previous irradiation; all symptoms of indigestion vanished rapidly.

The tumor of the thigh proved the most refractory. Only after the fourth dose could no remaining infiltration be detected.

At the present time the patient is free from any evidence of the disease. His general condition is excellent. He is free from any complaint; only the muscles of the leg have not yet regained their former strength.

COMMENT

The attitude toward deep roentgen irradiation as a therapeutic agency in widely metastasized malignant disease has heretofore been one of discouragement. It has been demonstrated in this case that widely disseminated sarcoma is in itself not a bar to successful treatment with these irradiations. It may be safely done, provided the dosage is absolutely controlled and the patient has good resistance.

The patient will, of course, be carefully watched in the future. The outstanding feature at present is this,

1. The variations in the blood counts have been referred to by Schroeder, J. H.: Intensive Deep Roentgen Irradiation, J. A. M. A. **79**: 1240 (Oct. 7) 1922.

that nine months ago this patient was lying in the hospital, hopeless and helpless; today he is looking toward a renewed useful existence.

11½ East Eighth Street.

MULTIPLE CALCULI IN STENSON'S DUCT

REPORT OF UNUSUAL CASE

ALFRED H. NOEHREN, M.D.
BUFFALO

In a careful search of the literature, I was unable to find the report of a case of salivary calculi exceeding the one herewith reported in the number of calculi found in one duct.

REPORT OF CASE

History.—F. S., aged 20, a student, consulted me in June, 1922, complaining of a swelling in his left cheek. He had noticed this swelling for the past eight years. It had varied from time to time, and during the last four months had been larger than ever before. There had been no pain, and the patient had not been troubled with pyorrhea, poor teeth, formation of tartar or bad odor of the breath. There had always been a free flow of saliva, and he had never passed any stones. He had consulted a physician in his college town, who diagnosed the condition as multiple salivary calculi.

Examination.—The patient was a well-developed young man, apparently in perfect health. His teeth were in good condition and, aside from the swelling, there was nothing abnormal in the appearance of his mouth. There was a moderate swelling of his left cheek, having the appearance externally of an alveolar abscess of the upper jaw. Palpation revealed the swelling to be irregular in shape and to consist of a number of hard bodies. It was felt near the anterior border of the masseter muscle at the level of Stenson's duct. Within the mouth, three distinct bodies could be distinguished, which seemed to be nearer the mucous membrane than the skin. It was impossible to find or probe the opening of Stenson's duct. The parotid gland was not enlarged. A diagnosis was made of multiple calculi in the buccal portion of Stenson's duct, probably three in number.

Operation.—This was performed under local anesthesia (1 per cent. procain) at the Deaconess Hospital, June 20. I incised the mucous membrane over the most prominent stone. With considerable difficulty, this was made to present at the wound and was grasped with forceps by an assistant, after which I was able to dissect it out. It was very firmly embedded and could not be pressed out without considerable dissection. This process was repeated with each of the other stones, always, however, using the same incision. To our great surprise, instead of three, there were fourteen stones, as seen in the accompanying illustration. They were hard and covered with tightly adherent tissue. The wound was three-fourths inch (1.9 cm.) long, and had to be considerably stretched. A gauze pad was kept inside the cheek for twenty-four hours.

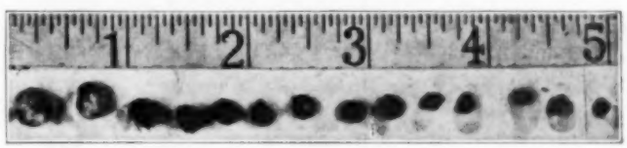
Outcome.—The patient made a good recovery. September 24, he wrote that the wound was well healed and the swelling practically gone. There was no pain, and no more stones could be felt.

COMMENT

Salivary calculi occur frequently enough to be of considerable clinical interest. Stenson's duct passes from the anterior border of the parotid gland transversely across the cheek on a line passing from the lower border of the concha to a point midway between the free margin of the upper lip and the ala of the nose, about a finger's breadth below the zygoma. Here, it lies on the masseter muscle directly under the skin and can be felt like a whip-cord, especially if the masseters are made to contract. It lies between the transverse facial artery above and the buccal branch of the facial nerve below. At the anterior border of the masseter, it turns abruptly inward, making almost a right angle. It passes through a mass of fat and the buccinator muscle to the mucous membrane, ending in a papilla opposite the crown of the upper second molar tooth. It is thus divided into a masseteric portion and a buccal portion, and, although the former is usually described as larger than the latter, in some recent dissections made on the cadaver, we found them of about equal length, i. e., about 1 inch (2.5 cm.) each, totaling slightly less than 2 inches (5 cm.). The diameter of the duct is about one-eighth inch (3 mm.), being narrowest at its termination.

In the case here reported, the calculi were in the buccal portion, and hence could be removed through the mouth. When calculi are in the masseteric portion or in the parotid gland, they must, as a rule, be removed through the skin, in which case the wound is less likely to heal and may result in a fistula.

The etiology of salivary calculi is not very clear. They are composed principally of the inorganic salts found in saliva, especially calcium carbonate and calcium phosphate. As in the case of tartar on the teeth, these salts are deposited by the action of bacteria. Furthermore, clumps of bacteria or particles of tartar may form the starting point of calculi, around which the salts are deposited.



Stones removed from Stenson's duct.

In this case, the good condition of the mouth and teeth would seem to reduce the possibility of a bacterial cause to a minimum. So we must look for another cause. The total amount of saliva secreted in twenty-four hours is 1,500 c.c. Allowing one half of this, or 750 c.c., for the parotid glands, the gland on one side would secrete about 375 c.c. in twenty-four hours; or, roughly, about 15 c.c. of saliva passes through each Stenson duct every hour. This is quite a stream, and any interference with it would be liable to cause trouble. As this patient is a student, he spends much time at his desk reading and writing. The natural student's attitude is to rest the head on the left hand. In this position, the hand naturally presses on that part of the cheek which contains Stenson's duct, especially where the duct turns around the anterior border of the masseter muscle and dips down to the mucous membrane. This causes a certain amount of stasis in the salivary flow and traumatizes the duct itself, thus making more likely a deposit of the salts of the saliva forming the nuclei of calculi. Furthermore, the pressure would tend to embed them, as in this case. To prevent a recurrence, therefore, the patient should be instructed to support his head in some other way.

1196 Main Street.

Choice of Physicians.—The more rapidly the public learns to be discriminating in its choice of physicians, the more rapidly will the standards in the practice of medicine become elevated.—Wolbach, New Growths and Cancer, Harvard University Press, 1922.

THE USE OF EPINEPHRIN IN THE STOKES-ADAMS SYNDROME *

HAROLD FEIL, M.D.
CLEVELAND

The discomfort of patients who have Stokes-Adams attacks is well known, and until recently there has been no successful means of combating the condition. The syncopal attacks may occur at such frequent intervals that the patient is in almost constant anguish. Besides, there is the danger of permanent ventricular standstill. To those who have observed such attacks, the picture by Holberton [1] is familiar. He describes a fit as "always preceded by cessation of the pulse for a second or two before syncope took place; on the heart recommencing to beat, the face would redden, and consciousness return, with a wild stare and occasionally a snorting, a slight foaming at the mouth and a convulsive action of the muscles of the mouth and face." This cycle may be repeated at frequent intervals, as in the patient whose case history is here reported.

Phear and Parkinson [2] recently reported good results from the subcutaneous injection of epinephrin hydrochlorid in 1:1,000 solution, in a patient who was suffering from syncopal attacks in complete heart block. It was their report that prompted me to employ this therapy.

Fig. 1.—*a*, Complete heart block, after the syncopal attacks had ceased; rate of auricles, 90; rate of ventricles, 30; Q R S interval, 0.1013 second. *b*, Normal mechanism: rate, 68; Q R S interval, 0.1116 second; P-R interval, 0.2454 second. *c*, 2:1 block: rate of auricles, 84; rate of ventricles, 42; Q R S interval, 0.1228 second. The interauricular periods in *a* and *c*, during which the ventricular systoles fall, are shorter than those which follow; time in fifths of a second; all records from Lead 2.

Epinephrin has been suggested in the treatment of heart block because of its well known effect of stimulation of the physiologic endings of the sympathetic system and its supposed increase of coronary flow. Barbour and Price [3] have shown that epinephrin constricts the coronary arteries of the monkey (and presumably of man) and slows coronary flow. That epinephrin may stimulate smoothe muscle in one concentration and inhibit when the concentration is increased has been shown by Hoskins.[4] Epinephrin may slow the heart through its action on the vagus, either reflexly, because of the elevation of blood pressure, or directly on the center. Syncopal attacks, due to cerebral anemia consequent on ventricular standstill, may occur during the period when complete heart block is developing. In fact, syncopal attacks in complete heart block, when it is firmly established, are uncommon. It is during the transitional period, when the new center of impulse formation is taking on its function, that occasional or frequent periods of ventricular standstill occur.

Kahn [5] produced complete heart block in dogs by injection of epinephrin; but bradycardia did not follow, because both auricles and ventricles were accelerated. Egmond [6] later caused acceleration of auricles and ventricles in dogs, with experimental complete block. He agreed with Cullis and Tribe,[7] who found that, in experimental complete block in cats (produced by section of the His bundle), epinephrin caused as much acceleration of the auricles and the ventricles as before section. They believed that the accelerator fibers probably reach the ventricle by way of the coronary arteries. Routier [8] accomplished the same acceleration and also noted restoration of normal mechanism for a brief period. Stewart and Rogoff [9] found experimentally that epinephrin passing into the blood stream from the suprarenals at the ordinary rate can produce a cardiac irregularity (due, probably, to premature beats).

Hardoy and Housay [10] used epinephrin in a clinical case of complete heart block without effect on either the block or the heart rate. Intravenous injection of 1 c.c. of epinephrin in a 1:1,000 solution gave rise to dangerous symptoms with great acceleration of both chambers, yet affecting the heart block. Danielopolu and Danulescu [11] in 1916 used epinephrin subcutaneously in cases of complete heart block, noting that the rate of the auricles and ventricles was elevated, without change in the block. They also noted the lack of parallelism between the rate of acceleration of the auricles and ventricles. They recommend epinephrin hydrochlorid subcutaneously (from 1 to 2 mg.) in attacks of cerebral anemia which occur in heart block, and they state that the effect is less certain in complete heart block than in incomplete block. Lutembacher [12] gave 2 mg. of epinephrin intravenously in a case of complete heart block, and noted grave symptoms. In another case, the intravenous injection of 1 mg. was followed by numerous extrasystoles, causing ventricular tachycardia and a ventricular pause, with syncope. The pulse remained at 16 a minute for a week, one half of the rate before therapy. He suggests the use of epinephrin in syncopal attacks caused by ventricular standstill. Arrilaga [13] used the drug in six cases of complete heart block (in doses of 1 mg.), without modification of the block. Strisower [14] used epinephrin hydrochlorid subcutaneously in the dose of 0.5 c.c. of a 1:1,000 solution in a case of complete block, the ventricular rate rising from 28 to 84 in one-half hour, and the next day the electrocardiogram was normal. A month later, 2:1 heart block was noted, and a smaller dose of the same solu-

* From the Cardiographic Laboratory of Mount Sinai Hospital of Cleveland.

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7. Cullis, W., and Tribe, E. M.: J. Physiol. **46**: 141, 1913.
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11. Danielopolu, D., and Danulescu, V.: Compt. rend. Soc. de biol. **79**: 861, 1916.
12. Lutembacher, R.: Arch. d. mal. du cœur. **13**: 345 (Aug.) 1920.
13. Arrilaga, F. C.: abstr., Arch. d. mal. du cœur. **13**: 370, 1920.
14. Strisower, R.: Wien. klin. Wchnschr. **33**: 269 (March 25) 1920.

tion doubled the ventricular rate and restored normal mechanism.

Phear and Parkinson [2] report the case of a woman, aged 49, who had suffered from recurring syncopal attacks for two years. During a period of six days, there was "periodic recurrence of ventricular standstill with its accompanying phenomena, continued at almost regular intervals during day and night. On two occasions, atropin, 1/100 grain, was administered, the immediate effect being a definite diminution in the severity of the symptoms, without any change in the frequency of the attacks; but the improvement was maintained only during two or three attacks and was followed by a reaction with more severe symptoms and enhanced mental distress." Five minims of epinephrin solution (1:1,000) was injected subcutaneously. Fifteen minutes later, the attacks stopped, and, although there was one slight attack a few hours later, no more appeared during the following four weeks. During the evening of the same day, another injection of 10 minims of epinephrin was given. The pulse rate following the administration of epinephrin was no faster than during the period of ventricular activity prior to the giving of the epinephrin.

These authors conclude, from their study of the literature and from their clinical case, that epinephrin administered subcutaneously may or may not abolish complete heart block. Even if the block is not changed, there is usually an acceleration of the rate of the auricles and ventricles. In their case, no change in the complete block occurred, but the standstill of the ventricles was abolished, with relief from attacks of the Stokes-Adams syndrome.

Fig. 2.—Arterial pulse curve of complete attack: The increasing diastolic pauses preceding standstill and the quickened rate after the ventricle begins to beat again are shown; time in fifths of a second.

Korns and Christie [15] report a clinical case in which the intramuscular injection of 10 minims of epinephrin hydrochlorid converted a 2:1 block into dissociation.

REPORT OF CASE

History.—A barber, aged 50, a married man, with one normal child, seen, Aug. 25, 1922, through the kindness of Dr. John Tucker, because of fainting attacks, gave an unimportant family history and a personal history of measles, diphtheria and tonsillitis in childhood. However, he had enjoyed excellent health during adult life until the onset of the present illness. Physicians had often remarked about his slow pulse, but there was no exact information on this point. The first fainting attack occurred during February, 1922, when the patient was entering his room after a day's work. He remained free from attacks until four weeks later, when, while out walking, he became dizzy and fell over in a faint. Another attack followed about three weeks later, when he fainted while at work. It was not unusual at that time for him to faint on rising from his chair. Five weeks prior to admission to the hospital, the syncopal attacks increased in frequency, so that he fainted once or twice daily. During this period approximately 20 pounds (9 kg.) in weight was lost. August 18, his pulse was 80, regular and rhythmical, and the blood pressure was 130 systolic and 76 diastolic. August 26, the attacks increased in number so that one followed another in almost unbroken succession. Continuing August 27 and 28, these successive syncopal attacks kept the patient in almost constant distress. In a typical attack, the ventricular standstill lasted from three to twelve seconds. Pallor was noted, and unconsciousness, twitching of the muscles, convulsive movements and respiratory stridor followed. The patient awakened complaining of a severe throbbing headache, with buzzing in his ears. For quite a while, he noted shortness of breath on walking. He never felt any premonitory symptoms before his attacks, and there was no point suggestive of epilepsy in the history.

Physical Examination.—This revealed that the patient was well nourished and well developed. He was then lying in bed, and suffering from syncopal attacks. There was no cyanosis or respiratory distress in the periods of consciousness. There were no signs of infection. There was moderate emphysema. The peripheral arteries were not thickened, and the rate of the pulse was 34 a minute, regular and rhythmical at times, but with frequently recurring intervals when the pulse could not be felt. The blood pressure was 140 systolic and 66 diastolic. There was no cardiac enlargement, a finding that was confirmed by fluoroscopic examination. The heart sounds were distant and were accentuated at times. The liver edge was palpable and tender. There were no other signs of stasis. Examination of the urine revealed no abnormality. The Wassermann reaction of the blood was negative, as performed by two laboratories. The electrocardiogram (Fig. 1 *a*) showed complete heart block, with the Q R S interval measuring 0.101 of a second. The auricular rate was 90, while that of the ventricles was 30.

Treatment.—The subcutaneous injection of atropin sulphate, 0.0013 gm., was without effect; 0.6 c.c. of epinephrin hydrochlorid solution (1:1,000) was then given subcutaneously, with immediate cessation of the syncopal attacks. The ventricular rate was 34, and was unbroken by any periods of standstill. No syncopal attacks occurred until twelve hours later, when Stokes-Adams syndromes again recurred. Another injection of 0.6 c.c. of epinephrin terminated these attacks. Twelve hours later, further syncopal attacks were noted, and were ended by epinephrin. Epinephrin hydrochlorid, 0.6 c.c. of a 1:1,000 solution, was injected twice daily for a period of ten days, and no further attacks occurred. The ventricular rate continued at about 34 a minute for one week, when the rate rose to 55 and then steadily to 84 five days later. An electrocardiogram (Fig. 1 *b*) showed normal mechanism with a prolonged P-R interval (0.245 second), and a Q R S interval in excess of the normal (0.114 second). The patient was comfortable and able to carry on simple activities without discomfort. Any exertion, such as climbing stairs or walking fast, provoked dyspnea.

A week later, the electrocardiogram showed 2:1 block (Fig. 1 *c*), the auricles beating 84 a minute and ventricles 42 a minute. A week later, the electrocardiogram showed complete block again, with a ventricular rate of 30. This dissociation has been maintained to the present moment, and the patient is working at his trade, but with greatly diminished tolerance for exercise, breathlessness coming on after a short walk.

TABLE 1.—EFFECT OF ATROPIN SULPHATE

	Auricular Rate Per Minute	Ventricular Rate Per Minute
Before atropin	76	29
Fifteen minutes after 0.0026 gm. atropin sulphate subcutaneously	83	31
Thirty-five minutes after atropin	92	35
Fifty-five minutes after atropin	94	31

Reaction of Patient to Drugs.—Atropin: Atropin sulphate, 0.026 gm., was given subcutaneously to determine the possible rôle of the vagus in the production of the heart block. Complete heart block persisted after the administration of the drug, although physiologic effects were noted, such as dilatation of the pupils and dryness of the pharynx. Table 1 shows the effect of atropin on the respective rates of

15. Korns, H. M., and Christie, C. D.: Note on the Use of Epinephrin in Heart Block, J. A. M. A. **79**: 1606 (Nov. 4) 1922.

auricles and ventricles. A definite acceleration of both chambers becomes evident fifteen minutes after the injection, persisting for at least forty minutes. No change in the ventricular complexes was noted in the electrocardiogram.

Epinephrin: Epinephrin hydrochlorid, 0.6 c.c. of a 1:1,000 solution, was injected subcutaneously to determine any possible change in rate or mechanism. Table 2 shows the result of this trial. A slight increase of the rate of the auricles and the ventricles is noted, in moderate agreement with the finding of Danielopolu and Danulescu,[15] who administered a much larger dose, from 1.5 to 2 mg. (1.5 to 2 c.c.) of a 1:1,000 solution, and obtained a greater rise in the rates of both chambers. The complete block was unaltered. The administration of epinephrin was followed by muscular tremor, pallor of the hands and face, and diaphoresis.

Blood pressure, maximum systolic and minimum diastolic, remained unchanged in spite of the slight acceleration of the heart.

CONCLUSION

There is clinical evidence that the subcutaneous injection of epinephrin in cases of partial heart block may overcome the delay in conduction, restoring it to normal; in 2:1 block, the mechanism may be restored to normal or dissociation may follow. In complete block, normal sequence may result or no change occur. In the latter event acceleration of the auricles and the ventricles usually results. In cases of frequently recurring attacks of Stokes-Adams' syndrome, the syncopal attacks may be abolished. From the clinical report of the English observers and from my report, the effect of the subcutaneous injection may be said to last about twelve hours. The dose administered to adults of average weight is from 0.3 to 0.6 c.c. of a 1:1,000 solution, injected subcutaneously. The danger in administration of epinephrin to patients with a considerable degree of arteriosclerosis or with hypertension (and in many cases of complete heart block there is an elevated systolic maximum pressure) must be weighed against the dangers and the discomfort of the syncopal attacks. Doubtless, epinephrin therapy is justified in the treatment of patients with frequently recurring syncopal attacks, in view of the usual urgency of the patient's condition and because of the satisfactory results obtained in the reported cases. In no event should epinephrin be administered intravenously. The use of epinephrin subcutaneously offers relief from Stokes-Adams' attacks and doubtless stimulates the new center of impulse formation in complete heart block, by way of the sympathetic endings. There appears to be little or no danger in the use of epinephrin in this type of case when it is properly administered. Intravenous injection results in greater concentration of epinephrin in the blood stream, and it is this factor that is probably responsible for the grave reactions reported in the literature.[16]

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TABLE 2.—EFFECT OF EPINEPHRIN

	Auricular Rate	Ventricular Rate	Blood Pressure—Systolic	Blood Pressure—Diastolic
Before epinephrin	78	29	118	50
Ten minutes after 0.6 c.c. epinephrin, 1:1,000 solution	76	29	120	42
Twenty minutes after epinephrin	80	29	...	..
Thirty minutes after epinephrin	82	30	120	44
Forty minutes after epinephrin	79	30	124	40
Fifty minutes after epinephrin	81	31	120	42
Sixty minutes after epinephrin	79	30	120	42

TABLE 3.—BLOOD PRESSURE

Date	Rhythm	Systolic	Diastolic
	Normal (clinical examination)	130	76
	Complete heart block:		
Aug. 18, 1922	Before epinephrin	140	66
Sept. 1, 1922	Ten minutes after epinephrin	152	62
Sept. 3, 1922	Complete heart block	150	70
Oct. 28, 1922	Complete heart block	118	50

THE DEMONSTRATION OF UNERUPTED HUTCHINSON'S TEETH BY THE ROENTGEN RAY *

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AND
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On a number of occasions, one of us (J. H. S.) has been impressed with the significance of aplasia of the upper central incisors of the second dentition as a clue to the existence of heredosyphilis.

With a view to determining whether dental aplasia in heredosyphilis is actual or merely apparent, because of impaction or noneruption of the upper central incisors, roentgenograms are being taken in suitable cases in which the delayed appearance of these teeth suggests the possibility of aplasia.

The examination of children's teeth by the roentgen ray has been considered difficult and more or less hazardous. If the operator, however, does not attempt to make too many exposures and uses the bite method, children even at the age of 4 or 5 years can be handled quite successfully. The film is held in place by closing the jaws. A third person, to engage the hands of the child, practically eliminates danger. As it is only necessary to observe the unerupted upper incisors to get the full benefit of the dental examination in such patients, one exposure is sufficient.

We are not as yet in a position to make a definite statement with regard to the existence of an actual total aplasia in certain cases of heredosyphilis. The intra-alveolar demonstration of as yet unerupted Hutchinson's teeth represented by the case here reported seems, however, to have sufficient diagnostic interest to justify a report:

REPORT OF CASE

F. L., a baby girl, aged 5 months, was seen in the Mayo Clinic in 1917, with signs of nasal obstruction. What appeared to be a large parapharyngeal fluctuating mass was recognized. On the finding of a strongly positive Wassermann reaction on the blood, the mass was interpreted as probably gummatous. No teeth had as yet appeared. The liver was enlarged. Definite anterior bowing of the tibiae and a moderate rachitic rosary were recognized; slight epiphyseal enlargement was also apparent. There was a definite venous ectasia. The blood Wassermann reaction on the patient's mother was strongly positive.

Following the administration of six intravenous injections of arsphenamin, this patient was not seen again for five years. In this interval the pharyngeal gumma had completely involuted, the infection had become quiescent, the child had become fairly robust, and while she still displayed osseous stigmas suggestive of heredosyphilis, the Wassermann reaction was now repeatedly negative. At the time of her reexamination, the upper central incisors were absent and the

16. Rogoff, J. M.: Personal communication to the author.

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mother said that the first dentition teeth had been poor and had decayed rapidly. She was concerned lest the second dentition teeth should not be normal.

In the effort to determine whether an aplasia of the second dentition upper central incisors existed, a roentgenogram was made. The Hutchinson characteristics of the unerupted teeth are easily apparent, particularly the lateral bulging and the notch.

COMMENT

In any large syphilologic practice, cases are occasionally encountered in which the fact that the child's teeth are still of the first dentition makes it impossible, in the absence of other conclusive evidence, to clinch the diagnosis of heredosyphilis by the identification of true Hutchinson's teeth. In such cases, it seems possible that intra-alveolar identification of Hutchinson's teeth by the roentgen ray may be of diagnostic service. Moreover, as in the present instance, it may thus be possible to clinch the diagnosis of heredosyphilis in children in whom loss of the first dentition incisors, with delayed eruption of those of the second dentition, makes a direct clinical identification of Hutchinson's teeth impossible for the time being. We are carrying on further studies on these possibilities.

Unerupted Hutchinson's upper central incisors demonstrated by roentgen ray in a child, aged 5 years.

It is further of interest to note that, although the six arsphenamin injections which this child recevied at the age of 5 months caused a prompt recession of the active gummatous manifestations of the syphilis, there was no effect whatever on the germinal anlagen of the Hutchinson teeth. The anlagen of the upper central incisors of the second dentition are recognizable on the average at the twelfth month of life, and presumably have already received the abnormal developmental impulse or trend which leads to the formation of the Hutchinson teeth. It is certainly suggested that treatment for syphilis in infancy cannot affect the appearance of Hutchinson incisors in the second dentition. It must be admitted, however, that the treatment in this case did not reach the intensity demanded by modern standards, so that this conclusion can hardly be accepted as final.

Safety Week.—Much good was accomplished through the holding of Safety Week, observed in New York and throughout the country during the week of October 8-14, last. Through the concentrated efforts of the committee in charge, forty-seven fewer lives were lost during Safety Week, as compared to the corresponding week of 1921, and thousands of accidents were prevented in the City of New York alone. It is safe to assume that the "Safety Week" drive was responsible for saving the lives of hundreds of people throughout the country. Safety Week did one thing, if nothing else: It made people think, made them more careful, and cautioned them over and over again "not to get hurt." We should use the slogan "Don't Get Hurt" not for one week, but for all weeks, and for all times. No effort is more commendable or more heroic than the effort to prevent accidents. Teachers should inculcate into the minds of schoolchildren, at every possible opportunity, the essentials of "Safety First."—*School Health News*, November, 1922.

FALLIBILITY OF ROENTGENOLOGIC EVIDENCE OF HEALED GASTRIC ULCER

REPORT OF CASE *

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The changes in the roentgen-ray findings of peptic ulcer that take place in the course of medical treatment can be studied best in that type of ulcer showing a penetration on the lesser curvature. When filled by barium, the crater of a penetrating ulcer appears as a budlike projection from the outline of the stomach, which has been termed a "niche" by Haudek. When situated on the lesser curvature, a niche can be easily visualized, and is unlikely to be simulated by adhesions or cicatrices as are ulcers at the pylorus or duodenum.

Since Hamburger, in 1918, published his roentgenologic studies on the healing of peptic ulcers, several reports have appeared showing the diminution in size or the total disappearance of a niche in response to medical treatment. Most of the reported cases were observed for too short a time to draw definite conclusions regarding their cure, but these changes in the roentgenologic picture were interpreted as strong evidence of healing. The case here reported is instructive in showing the possibility of error in such an interpretation.

Fig. 1.—Lesser curvature niche after ten days of medical treatment.

REPORT OF CASE

History.—L. G., a man, aged 46, a furrier, came under my observation, April 18, 1921. His gastric complaint was of

* Read before the Metropolitan Medical Society, Feb. 28, 1922.

eight years' duration. For seven years his symptoms had been very mild. For about one year he had had attacks of severe epigastric pain and occasional vomiting. Twice there had been dark brown fluid in the vomitus, presumably blood, but a tarry stool had not been observed. He had never on a strict regimen of treatment, and there was no loss in weight.

Physical Examination.—The patient was a tall, thin, neurotic man weighing 130 pounds (59 kg.). The only physical finding of note was slight tenderness, which was localized in the epigastrium midway between the xiphoid cartilage and the umbilicus.

The blood pressure and the urine were normal. A test meal disclosed normal free hydrochloric acid and a small amount of macroscopic altered blood.

From these data the diagnosis of gastric ulcer was made, and April 20, the patient was placed on a modified Sippy treatment.

A roentgenologic examination, April 30, by Dr. S. J. Goldfarb, disclosed a niche on the lesser curvature, midway between the cardia and the pylorus (Fig. 1). There was no incisure on the greater curvature opposite the niche. The motility of the stomach was not delayed.

A confirmatory examination was made five days later, and the same results were again obtained.

Course.—Because of the roentgen-ray findings and the chronicity of the symptoms, operation was advised; the patient, however, feeling improved on his restricted diet, requested that the medical treatment be continued. At the end of two months his symptoms and tenderness were entirely gone and his weight was 136 pounds (62 kg.), a gain of 6 pounds (2.7 kg.) since beginning treatment. He was then referred to Dr. Goldfarb to determine whether any change in the roentgenologic appearance of the ulcer occurred, corresponding to the clinical improvement. He was examined, July 2, and to our surprise no evidence of the ulcer could be found either on fluoroscopic examination or by means of plates.

Fig. 2.—Absence of niche in repeated examinations after from ten and one-half weeks to three months of medical treatment.

To corroborate this finding, the patient was examined fluoroscopically five days later, and again no evidence of the ulcer was seen. I believed that this case was another medically healed chronic gastric ulcer with roentgenologic evidence, similar to those that had been reported. July 15, however, almost three months after the beginning of the treatment, the patient suffered a return of the epigastric pain and vomiting, in which a small amount of altered blood was present.

To determine whether any change in the roentgen picture occurred, corresponding to this return of symptoms, another roentgenologic examination was made, July 20, but for a third time, no sign of the ulcer could be seen (Fig. 2). Because of the severity of the pain and the presence of blood in the vomitus, it was decided to submit the man to a laparotomy, despite the roentgen-ray findings. At operation, August 3, by Dr. Albert A. Berg, a callous ulcer was found present on the lesser curvature exactly as shown in the first roentgenologic examination. A subtotal gastrectomy was performed. Gross examination of the excised specimen revealed an indurated ulcer, the margins of which were congested and hemorrhagic in spots. The crater was filled with a mucoid substance, easily removed with the finger and without any intimate connection with the ulcer surface. The depth of the excavation then corresponded with the size of the niche in the first roentgenologic examination (Fig. 1). The mucoid material filling the crater probably accounted for the failure of the barium to enter it in the repeated examinations.

REVIEW OF LITERATURE

In 1918, Hamburger [1] reported three cases of penetrating ulcer observed roentgenologically from three to four months, in which medical treatment was followed by partial to complete filling of a niche. One patient remained well for nearly two years. He also reported a case in which a peristaltic indentation was mistaken for a penetrating ulcer, which was not found at operation. He cited a similar case observed by Cole.

Small series of similar cases, observed for periods varying from fifteen weeks to one and one-half years, were also reported by White,[2] Buckstein [3] and Shattuck.[4] White remarks that it is possible that food may occasionally stick in the bottom of an ulcer crater and make it appear shallow.

In 1920, Øhnell [5] reported thirty-four similar types of ulcers, treated medically between November, 1916, and July, 1918. In thirty-one of these cases, the niches disappeared on an average after forty and one-half days of the ulcer cure. He found that as the niche disappeared the patient became free from symptoms, tenderness disappeared, and generally the motility distinctly improved. However, he stated that he knew of no clinically cured ulcer that had previously shown a niche, in which an actual pathologic anatomic demonstration had been made, showing the healed ulcer covered with epithelial tissue. He concluded that the period of observation in his cases was still too short to judge of permanent cure.

Holmgren, in the discussion of Øhnell's paper, said that in several cases he, too, obtained similar results, but that in certain cases the patients returned in the course of six months or a year with the niche in the same place as before.

Recently, Diamond [6] gave a detailed report of fourteen cases responding to medical treatment with the

1. Hamburger, W. W.: Roentgenological Studies in the Healing of Gastric and Duodenal Ulcers, Am. J. M. Sc. **155**: 204 (Feb.) 1918.
2. White, F. W.: Improvement in the Medical Treatment of Chronic Ulcer of the Stomach and Duodenum, M. Clin. N. Am. **2**: 1431 (March) 1919.
3. Buckstein, Jacob: Roentgenographic Evidence of Ulcer Healing, J. A. M. A. **76**: 231 (Jan. 22) 1921.
4. Shattuck, H. F.: Study of the Early Effects of the Sippy Method of Treating Peptic Ulcer, J. A. M. A. **77**: 1311 (Oct. 22) 1921.
5. Øhnell, Harold: Interne Behandlung bei Ulcus Ventriculi mit rontgenologischer Nishe, Acta med. Scandinav. **52**: 1, 1919-1920; Internal Treatment of Ulcus Ventriculi with Niche Proved by X-Rays, ibid. **53**: 706 (Jan.) 1921.
6. Diamond, J. S.: Observations on the Curability of Gastric Ulcer, with a Report of Fourteen Cases of Healed Lesser Curvature Ulcers, Am. J. M. Sc. **162**: 548 (April) 1922.

disappearance of a niche. Three patients in this group remained well for more than four years, which is the longest period of observation thus far recorded. The other cases were observed for varying periods up to three years.

COMMENT

It is difficult to prove the curative effect of medical treatment of chronic gastric ulcer because of the spontaneous remissions in symptoms that so frequently characterize the disease. It is well known, as Mayo states, that "one or two years between attacks without treatment is a common early history." Such patients consider themselves cured until a sudden relapse indicates that the disease still exists. However, in such cases, the view is also tenable that the old ulcer had healed, and a new one formed owing to the activity of the original etiologic agent. The study of the changes in gastric secretion or motility that follow medical treatment can give no results that are conclusive of cure, since there are no findings in the secretory or motor functions of the stomach that are pathognomonic for peptic ulcer. Roentgenologic examination (with a small percentage of error in mistaking a projection due to peristalsis or adhesions for a true niche), affords a method of obtaining definite objective record of morphologic changes in the surface of an ulcer.

Fig. 1.—Twenty minutes after barium meal: bulk of meal in cardia, and some trickling down through the constriction toward the pylorus. (This and the accompanying roentgenogram were taken by Dr. E. L. Mathias.)

It seems reasonable to interpret the diminution in size or the total disappearance of a niche as evidence of healing or cure, especially when these changes are accompanied by clinical evidence of improvement, and by other roentgenologic findings, such as the disappearance of an incisure, and improved motility. However, the case presented shows that this interpretation is open to error. There are causes for the disappearance of a niche other than the obliteration of an ulcer crater by granulation or cicatricial tissue. As mentioned above, food may enter the crater. In the case which I have presented, mucoid material filled the crater. It has been suggested that pressure by edema or enlargement of an organ, such as the liver or pancreas, adjacent to the ulcer, may obliterate the crater. It must further be borne in mind that, even if an ulcer crater is filled with granulation tissue, the ulcer cannot be considered healed unless its surface is completely covered with epithelial tissue. This condition the roentgen ray cannot demonstrate.

These facts, and also the knowledge that there are frequent remissions in symptoms in this disease, emphasize the need of a long period of observation (Moynihan suggests three years) before drawing any definite conclusions regarding the medical cure of a chronic gastric ulcer. To quote Moynihan, "When a chronic gastric ulcer, the cause of recurring attacks, is seen at the time of operation, it is perfectly obvious that the healing of a condition when such gross anatomic changes are present can only be brought about by long continued and rigid treatment."

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Clinical Notes, Suggestions, and New Instruments

EMPLOYMENT OF TWO DUODENAL TUBES IN GASTRO-ENTEROLOGY

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The recent article by Dr. Epstein[1] on a simple nonoperative method of treating gastric ulcer calls to mind a procedure which I have found of value, and which also has as a basis the use of two duodenal tubes. Although, as yet, I have not resorted to lavage and siphonage by means of the tubes with the idea of treating ulcer, we have found the use of the two tubes of considerable value in diagnosis. The possibilities of the procedure as affecting both diagnosis and treatment are almost without limit. The case here reported will illustrate concretely the value of the procedure.

REPORT OF CASE

H. S., a man, aged 65, white, admitted to the Vineyard Park Hospital, Aug. 3, 1922, complained of indigestion, loss of appetite, and loss of weight. He had had indigestion twenty-five or thirty years; anorexia for the last five or six years, and considerable distress after meals, following a period of about one hour of comparative comfort. One year before admission he had a hemorrhage from the stomach, and then tarry stools. He remained in bed several weeks, and had not worked since. He had lost 30 pounds (13.6 kg.) in one year. He had a sense of soreness and fulness in the left upper abdominal quadrant, and could not lie on the back or the right side. He vomited only occasionally now, and seldom any blood. Occasionally he coughed. The bowels were constipated. There were no cardiovascular or nervous symptoms.

The patient had had the usual diseases of childhood. Hemoptysis occurred in 1881, but not since. He was the father of seven children in good health. The family history and social history were negative.

The patient was poorly nourished. He lay in a left semirecumbent position in evident distress. The head, neck and chest were for the most part surgically negative. The abdomen was flat. The musculature was poor. There was marked sensitiveness and a vague sense of a mass in the left upper quadrant. A duodenal tube was passed, but no stomach contents could be withdrawn. A roentgenogram (Fig. 1) revealed a large shadow in the region of the cardia, with a small stream of the barium trickling down through a constriction toward the pylorus. In view of the failure of the first stomach aspiration, it was determined to leave a tube

1. Epstein, A. A.: A Simple Nonoperative Method of Treating Gastric Ulcer, J. A. M. A. **79**: 1321 (Oct. 14) 1922.

in situ for twelve hours. Accordingly, one was passed on the evening of August 5, and allowed to sink as far as possible until the following morning, with the patient turned on the right side as much of the time as he was able. On the morning of August 6, 2 c.c. of material was aspirated through the tube (Fig. 2 *A*). This was bloody, of a sour odor, alkaline to litmus, of a thin consistency, and contained no free acid. There was both microscopic and occult blood, and the total acidity was 60.

Figure 2 shows how far through the constriction the duodenal tube was able to gravitate during the twelve hour period. A second tube, passed an hour before the roentgenogram was taken, is shown in the pouch above the constriction (Fig. 2 *B*). It was intended to show the amount of uninvolved stomach by injecting the barium solution through the two tubes. In a measure this proved unsuccessful, but a diagnosis of carcinoma adherent to the retroperitoneal structures was substantiated. Operation at the patient's request was performed by Dr. John G. Sheldon, August 6. A carcinoma of the lesser curvature of the stomach was found, and numerous visceral metastases. The mass was immovable on the retroperitoneal structures. The abdomen was closed. The exploration was made under a local anesthetic.

POSSIBILITIES OF THE TWO TUBE PROCEDURE

It is our purpose, as opportunities offer, to makes use of the two tube procedure in elucidating some of the problems of gastro-enterology which have proved difficult by other means. Some of the problems that would seem capable of solution are: (1) synchronous determination of the chemistry of the two pouches of an hour-glass stomach (the case herewith reported is of this general group); (2) aspiration of duodenal secretions through one tube while the chemistry of the stomach is being studied by means of the other, thus avoiding error due to regurgitating alkali; (3) aspiration of the stomach secretions during the duodenal test for pancreas function, in order to rule out the seepage into the duodenum of acid gastric juice; (4) to determine whether lavage and siphonage of the stomach in cases of morphin poisoning, acute dilatation, and the like, will be possible while at the same time duodenal feeding is being carried out; (5) the question whether it will be possible over a considerable period of time to pour alkali from the duodenal tube into the stomach through the other tube, thus obviating such an operation as cholecystogastrostomy, and the use of exogenous alkali in cases of hyperacidity with ulcer.

Fig. 2.—Two duodenal tubes in situ. Tube *A* was passed twelve hours before roentgenogram was taken.

In fractional gastric analysis shall we not be getting more nearly the true acidity at a given period by withdrawing some juice from each of two tubes at opposite ends of the stomach and mixing these samples before titrating for the acidity?

3825 Warwick Boulevard.

The Town with the Highest Child Mortality.—This, according to Dr. Ramón Pardo, is a proper description for Oaxaca, a city in southeastern Mexico. The average death rate among children under 11 years of age in 1910-1920 has been 604 per thousand births; among infants under 6 months, 204.4 per thousand births. The birth rate is normal, some years even rising to 53 per thousand inhabitants. The abnormal child mortality is gradually depopulating the town. Pardo thinks a similar condition prevails in other Mexican towns.

TWO CASES OF CHRONIC SIMPLE CYSTITIS OF UNUSUAL ETIOLOGY

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The infrequency of this form of cystitis, and the unusual etiology of the cases in question, are the reasons for this report.

REPORT OF CASES

CASE 1.—Miss L. P., aged 30, a milliner, was referred to me, March 9, 1917, on account of intermittent frequent, painful, burning urination present for the last three months. The condition had been of gradual onset. The history otherwise was of no importance.

Cystoscopy revealed the bladder mucosa intensely red throughout. Scattered over the trigon were small, grayish flakes, easily dislodged by the tip of the ureteral catheter. Both ureters were catheterized to the kidney pelvis, and clear urine was obtained. Physical examination revealed no other abnormality.

Smears from the urethral meatus and from Skene's and Bartholin's glands showed some pus cells and organisms, but no gonococci. Catheterized bladder urine was cloudy, of offensive odor and alkaline, and contained a few pus cells. There were no gonococci or tubercle bacilli. Urine from the left ureter contained a few pus cells; urine from the right ureter was normal. Indigocarmin, intravenously, appeared deep blue in fifteen minutes from both sides. The blood Wassermann reaction was negative.

April 3, under rest and local treatment, the patient was relieved of all symptoms, and resumed work. June 2, she returned with all her former symptoms. Close questioning into her personal habits revealed that she habitually used a rubber sponge, followed by talcum powder on cotton, to keep the vulva dry and clean. Advice against this practice, five days' rest, fluid diet, daily bladder irrigation with 1:4,000 silver nitrate, and hot sitz baths brought permanent relief. A letter from this patient, Nov. 8, 1922, stated that she had been well since.

CASE 2.—Miss L. B., aged 33, engaged in housework, consulted the family physician, Nov. 1, 1920, because of dysuria and dull, aching pain in the lower part of the abdomen. The symptoms were of three weeks' duration, with gradual onset. December 31, the patient entered French Hospital, where I saw her in consultation. No other important fact in the history was elicited.

Rectal examination with the finger detected a small, smooth uterus with the fundus retroverted deep into the culdesac. Cystoscopy revealed the bladder irritable, the mucosa considerably injected, the posterior aspect of the trigon bearing tiny, superficial ulcerations. The ureters were catheterized to the kidney pelvis. The catheterized bladder urine contained many white and red blood cells. The divided urines were normal. No other findings were recorded on two subsequent cystoscopies while the patient was in the hospital. Roentgen-ray examination of the kidneys and ureters was negative. The blood Wassermann reaction was negative.

Jan. 7, 1921, unable to account for the cystitis, I advised exploratory incision to correct the position of the uterus and possibly to remove an adherent appendix. This was done on the 12th, confirming both these conditions. The patient, apparently, was cured; she was discharged on the 27th.

October 13, however, she again complained of all former symptoms. Cystoscopy revealed essentially the previous findings minus the ulcerations.

Closer inquiry into her personal habits brought out the statement that whenever she felt secretions in her external genitals she applied talcum powder on a cloth to the vulva. Correction of this practice and local treatment, as in Case 1, resulted in complete recovery.

I saw this patient, Nov. 18, 1922, and she assured me that she has had no further genito-urinary trouble.

COMMENT

The etiology of these cases suggests that the cystitis in question is probably more frequent than the literature leads one to believe.[1]

Not until the hygiene of the vulva was corrected did either patient recover permanently. Case 2 bears strong evidence that complete recovery would have taken place without the operation.

138 East Fifty-Fifth Street.

Special Article

THE CARE AND FEEDING OF INFANTS

[NOTE.—This is the first of a series of articles on the care and feeding of infants. It is addressed to the general practitioner rather than to the pediatric specialist. When completed, the series, somewhat elaborated, will be reprinted in book form.—ED.]

INFANT FEEDING

All infants, during the first months of life, should receive fresh, clean milk in their diet. In most instances, a sufficient supply can be obtained from only two sources: (1) breast milk from the mother or a wetnurse; (2) cow's milk from a properly managed dairy. Correspondingly, we speak of two classes of feeding, breast feeding and cow's milk feeding.

BREAST MILK FEEDING

From every standpoint, the ideal mother is one who can nurse her own baby, and thereby furnish it with sufficient milk to meet its needs for normal growth and development. The mother who is not anxious to nurse her infant is a great exception. In fact, most women are greatly disappointed at being unable to meet the full requirements of their baby.

The mother can easily be impressed with the fact that breast milk is the ideal food for a baby. It is always fresh; with a simple technic it remains clean, and it is always available. From the standpoint of economy, it is by far less expensive than other foods. It is the best prophylactic against the communicable diseases and the commoner infections in infancy, and as a curative measure in the presence of nutritional disturbances and infections it has no peer.

Even more important is the fact that the infant is assured a mother's careful observation, owing to its frequent and intimate contact with her. She soon learns to recognize the earliest manifestations of its illnesses. It must be recognized as a fact that most mothers are capable of nursing their infants.

It cannot be denied that there are mothers whose mental and physical condition makes breast feeding inadvisable, but fortunately they are greatly in the minority. Breasts with an insufficiency of glandular tissue to meet the full needs of the infant, even during the first months of lactation, are encountered more frequently. Far less commonly do we find breasts so poorly developed that all lactation is to be disregarded.

McClanahan,[1] summarizing the opinion of a group of pediatricians whom he interrogated for opinions as to the relative morbidity among breast and bottle fed infants, concluded:

> Breast-fed infants are less susceptible to infection, with possibly two exceptions—influenza and tuberculosis. They resist infection to better advantage and with less after-effect from the disease. Breast-fed infants have less morbidity than properly fed bottle infants, and the advantages are still greater as compared with infants who have been improperly fed.

Studies made in many different countries have demonstrated that the death rate among the artificially fed is at all times higher than among the breast fed; that when breast feeding is the custom, the mortality rate is low in spite of other unfavorable factors; and that when breast feeding is increased in a community, the infant mortality rate is lowered.

In studies made in overcrowded and poverty-stricken districts of London, New York, Chicago and other large cities, the fact is very clearly brought out that where by race or custom it is the practice to feed infants at the breast, the infant mortality rate is lower, even though the environment is highly insanitary.

In our complicated modern society, there must be widespread emphasis among all classes, not only on the importance of breast feeding but also on the ways and means of making it successful. There are many false opinions to be overcome, such as the statement frequently made that the modern woman has lost the ability to suckle her young, and the feeling created, as a result of the emphasis on the importance of pure milk and pasteurization in infant feeding, that this is at least as good as breast feeding and often better.

The reports of Sedgwick[2] of the findings of the Breast Feeding Investigation Bureau of the University of Minnesota confirm the ideas which many physicians have held, that in greater part the inability of the mother to nurse her infant is due to improper instruction and insufficient encouragement on the part of the attending obstetrician and those responsible for her nursing care.

Only too frequently when the question is asked, "Why did you wean your child?" the answer is, "Because the doctor advised me to do so." Knowing how commonly this is true, there is certainly room for missionary work in order that breast feeding may receive further encouragement.

> The University of Minnesota breast feeding bureau supervised the care of 2,847 babies during the year 1919. Of these, 96 per cent. were at the breast at the end of their second month, and of 2,022 still under observation at the end on nine months, 72 per cent. were at the breast receiving part or all of their food in this way.
>
> In Boston, the Baby Hygiene Association has had such success, that of 6,000 infants under its supervision only 196 babies less than 6 months old were entirely artificially fed. The statistics of the Starr Center in Philadelphia are equally notable. In 1912-1913, only 48 per cent. of the babies under its care were breast fed. After six years of propaganda for breast feeding, of ninety-two infants whose mothers had been cared for by the prenatal department, ninety were entirely breast-fed at 1 month of age, one was partially breast-fed, and only one was bottle fed.

1. Smith, G. G.: Chronic Cystitis in Women Not a Disease, J. A. M. A. **61**: 2038 (Dec. 6) 1913.

1. McClanahan, H. M.: Arch. Pediat. **35**: 653 (Nov.) 1918.
2. Sedgwick, J. P.: Preliminary Report of Study of Breast Feeding in Minneapolis, Am. J. Dis. Child. **21**: 455 (May) 1921.

STIMULATION OF THE BREASTS

The demand which is made on the breast is by far the most important factor in the maintenance of the breast milk supply. Repeated, regular and complete evacuation of the breasts by a vigorous baby is, of course, the natural and best method. When this natural stimulus is not obtained, or when the demand on the breast is insufficient for any reason, the supply of breast milk decreases gradually until the supply is insufficient to meet the infant's needs. In these cases, artificial aid is necessary.

HAND EXPRESSION

Expression by hand is the best method for stimulating the breasts to secrete, when an infant is not available for this purpose. Wetnurses find it of the greatest advantage to practice expression at regular four hour periods, and when the breast is practically drained to place the wetnurse's infant at the breasts to empty them completely, both breasts being emptied at each period. The following methods for breast expression may well be followed:

The hands and nails should be scrubbed with soap, warm water and a nail brush, for at least one full minute. The nipple is washed with fresh absorbent cotton and boiled water or a boric solution. The hands are dried thoroughly on a clean towel and kept dry. A sterilized graduated glass tumbler or large-mouth bottle should be at hand to receive the milk.

1. The breast is grasped gently, but firmly, between the thumb placed in front, and the remainder of the fingers on the under surface of the breast. The thumb in front and the first finger beneath should rest just outside the pigmented area of the breast.

2. With the thumb, a downward pressing motion is made on the front against the fingers on the back of the breast, and the thumb in front and fingers behind are carried downward to the base of the nipple.

3. This second act should end with a slight forward pull with gentle pressure at the back of the nipple, which causes the milk to flow out.

The combination of these three movements may be described as "back, down, out."

It is not necessary to touch the nipple.

This act can be repeated from thirty to sixty times a minute after some practice.

It is advisable to empty both breasts at each expression.

The milk should be covered at once by a sterile cloth held in place by a rubber band and kept on ice until used.

Hoobler [3] reports that in the city of Detroit during two succeeding years, 67,000 ounces and 60,000 ounces, respectively, of milk was expressed from the breasts of women in different institutions and from private sources, and distributed throughout the city. Continued stimulation of the breasts by expression of the milk resulted in increasing quantities of milk.

Understimulation of the breasts results in a deficient milk supply.

MATERNAL NURSING

The Diet of the Mother.—The first principle of feeding a nursing mother should be to provide her with an abundance of simple but nourishing food. It should always be palatable and to the mother's liking. During the first days following labor and while she is still in bed, she should be on a more or less light diet, but one that is varied so that her appetite may be stimulated; she may thereby be encouraged to take sufficient food to meet the needs of the infant and herself. Four meals in twenty-four hours are usually all that she will take with comfort, while in bed.

When the mother is up and about, and has resumed her ordinary duties, she may be allowed to eat such foods as she was accustomed to before the advent of pregnancy and motherhood. It is a fallacy to forbid vegetables and fruits on general principles. As a rule, food that the patient can digest without inconvenience is a safe food, so far as the nursing is concerned. Occasionally an infant is seen who reacts to mother's milk by the development of colic when certain of the aromatic vegetables, such as turnips, cauliflower and onions, are a part of the mother's diet. Or, again, the same foods, or such additions to the mother's diet as coffee or salads, may interfere with her digestion and thereby change the quantity and not infrequently also the quality of her milk, all of which may react upon the child. Exceptionally an infant is seen that has become sensitized to one of the animal or vegetable proteins. These cases will be more fully discussed under "Idiosyncrasy to Mother's Milk." Restrictions in the mother's diet are, however, more especially indicated when she is feeding a premature or sick infant, because such infants are more readily affected by qualitative changes in the breast milk. More commonly, the error in the mother's diet lies in the nature of underfeeding and overfeeding. A greatly restricted diet in a robust young mother who has always eaten to her own satisfaction of a generous variety of foods is one of the surest means of curtailing the quantity and lowering the quality of her milk supply. On the other hand, overfeeding leads to revulsion to food, and sooner or later indigestion results. When the mother is convinced that any article of food disagrees with her, even though there may be doubt about it, the food should be discontinued. In a general way, milk, eggs, meat, fish, poultry, cereals, fresh vegetables and fruits should constitute the basis for selection. The acid fruits, salads and aromatic vegetables may be tried, to be discarded if they seem to distress the infant. Eggnogs, cereal gruels with milk, cocoa with milk, malted milk, and similar drinks can be given with the meals; or, when the mother desires, she may take them between meals. The day's diet should include 1 quart of milk in some form, and at least 1 quart of water. Tea and coffee in moderate amounts may be permitted.

Number of Meals.—Most mothers are better satisfied when eating only four times daily, the fourth meal being supplied at bedtime. The latter should consist of a dish of cereal and milk, or some other simple and easily digested food.

Air and Exercise.—From two to four hours daily should be spent in the open air, weather permitting. During this outdoor period, she should take moderate exercise, but never to the point of fatigue. It is well to divide the time of recreation into a morning and an afternoon period.

Sleep.—At least eight hours out of every twenty-four should be given to sleep. If her nights are disturbed, she should have the benefit of an hour or two rest period during midday. In case the infant has been accustomed to a feeding during the night, this should be withdrawn as soon as possible so that there will be only one nursing period between 6 p. m. and 6 a. m. This is most easily accomplished when the infant sleeps in a room separated from the mother and is under another's care during the night. Under all circumstances, the infant must sleep in its own crib.

To Avoid Constipation.—One free evacuation daily should be insisted on. As the excessive use of

3. Hoobler, B. R.: Tr. Am. Ped. Soc. 32: 290, 1920.

cathartics may result in diarrhea in the baby, efforts should be made to regulate the bowel function through food and exercise. A glass of cold water on arising in the morning, combined with a diet containing coarse cereals, sufficient vegetables and fruits, is usually all that is necessary. If this regimen does not have the desired effect, abdominal massage and local measures, such as an oil enema or a suppository, may prove effective. When these measures do not prove effective, it may be necessary to administer mild laxatives, such as liquid petrolatum, magma magnesiae or cascara sagrada. If no evacuation of the bowels has taken place during the previous twenty-four hours, an enema should be administered at bedtime.

Care of the Breasts.—During the latter months of pregnancy, a small amount of clear fluid is secreted by the breasts. Toward the end of pregnancy, and for the first few days after labor, colostrum is secreted. By the third or fourth day the character of the secretion is changed so that it resembles the later milk in both its physical and its chemical properties. The specific factor or factors which stimulate milk secretion are as yet unknown, but it is not unlikely that it may be in the nature of an enzyme. Two important results follow continued stimulation of the breasts by the infant: (1) contraction and involution of the uterus, and (2) increased secretion of breast milk. In the average breast, feeble stimulation results in a minimal milk supply, while stimulation by a strong infant or regular expression will be followed by a supply varying directly with the demand made on the breasts.

In the presence of small nipples, slight traction night and morning during the last months of pregnancy has a beneficial effect in lengthening the nipple.

A well established routine should be instituted for the care of the breasts during the period of lactation. To facilitate this, a readily accessible *tray with the necessary utensils* should be provided. This should contain a glass-stoppered bottle with a saturated solution of boric acid, a jar of cotton pledgets on toothpicks, to be used as applicators for the boric acid, and a graduated glass or beaker. The nipples should be thoroughly washed before and after nursing with a saturated solution of boric acid poured fresh from the bottle for each cleansing, and the surplus thrown away. The boric acid should be applied with the cotton pledgets. The fingers should not come in contact with the nipples, if the child is to nurse directly at the breast. If the nipples are tender, they should be anointed with a sterile mixture of 5 per cent. tincture of benzoin in liquid petrolatum.

In some cases, when the milk first comes in, the breasts may become engorged and painful. Usually this rights itself without difficulty as soon as the relation between the supply and demand is established. During this period of adjustment, besides limiting the fluids taken, the discomfort from engorgement may be relieved by elevating the breasts and keeping them partially under pressure by the use of a supporting breast binder. If a binder is used in time and the mother takes little fluid in her diet for a few days, it is rarely necessary to empty the breast by expression or with a breast pump. If left alone, mild cases of caked breast will disappear without treatment. Unnecessary handling of the breasts should be avoided. Besides limiting the fluid intake, laxatives are indicated. The vegetable cathartics are less likely to pass into the milk than are the salines. An icebag applied externally to a thin binder often will be of assistance. If the cold application produces discomfort, as occasionally it does, hot boric dressings protected by oiled silk may be used. These should be repeated at hourly intervals. The infant should be put to the breast regularly.

Fissures.—These offer serious difficulties to nursing because of pain and the danger of mastitis. Nursing through a nipple shield should be tried in order to minimize the danger of infection. When the infant cannot or will not use the shield, expression should be practiced. Failure to empty the breasts by these methods may make it necessary to risk the danger of infecting the breasts by allowing the infant to nurse directly from the breasts. When a nipple shield is used, it is imperative that it be cleaned thoroughly after nursing and reboiled before using. Among the best local applications are silver nitrate solution, 5 per cent., followed by an ointment, such as balsam of Peru, 1 part, and castor oil, 30 parts; or silver nitrate, 1 part, balsam of Peru, 2 parts, and sufficient petrolatum to make 30 parts.

Mastitis.—This is of frequent occurrence, even during the week following delivery, manifesting itself by headache and circumscribed pains in the mammary gland. The disease is usually confined to one of the lower quadrants. Tenderness, swelling, surface reddening and hard nodular points follow. The course of these mastitides, most of them parenchymatous, is favorable.

Much more serious are those cases which occur later, usually about three weeks after delivery. They begin more violently, with high fever, headache, vomiting, reddening of the skin and tumor formation which is painful to pressure. The pain is exhibited both at the seat of the trouble and in the axilla. With improper treatment, abscess formation quickly occurs and is often followed by repetitional relapses. In these cases we have often to deal with an interstitial mastitis.

Great care should be taken in differentiating between a simple engorgement (caked breast) and mastitis. As in the former, there is every indication for keeping the child at the breasts, in order that they may be emptied at regular intervals. Further indications for treatment in caked breast are met by a dry diet and purgation. When a diagnosis of mastitis is established, the infant should be removed from the breast and a tight binder applied. Two large icebags should be applied to each breast, kept half full so that they may not be too heavy. The binder should be thin, so that the icebags are not separated from the skin by enough cloth to prevent the cold from reaching the gland. The skin must feel cold to the touch; otherwise, no good will be derived from the ice. A saline cathartic may be given, and the liquids in the diet are restricted. The icebags may be removed one at a time after the patient has had a normal temperature for twelve hours. The infant is put back to the breast twenty-four hours after the temperature becomes normal.

If an abscess develops, the pus should be evacuated through radiating incisions. Even in the presence of abscess formations it is only exceptionally necessary to wean the infant. Usually by the end of the first week, even though the wound is still open and draining, the infant can be returned to the breast, after the first milk at each nursing is expressed and discarded. This will be found to have a favorable influence on healing. In most cases the breast function is soon reestablished.

(To be continued)

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SATURDAY, JANUARY 6, 1923

DEATHS OF PHYSICIANS IN 1922

During 1922, the deaths of 2,513 physicians in the United States were recorded in THE JOURNAL. Adding 3 per cent. to this number on account of delayed reports and possible omissions, we estimate the total number of deaths as 2,588. On an estimate of 146,000 physicians in the United States, this is equivalent to an annual death rate of 17.73 per thousand. The average annual mortality rate for the period from 1902 to 1922, inclusive, was 15.52.

Ages.—Of the 2,480 decedents whose age was stated, thirty-one were under 30; 149 between 31 and 40; 360 between 41 and 50; 536 between 51 and 60; 661 between 61 and 70; 531 between 71 and 80; 177 between 81 and 90, and thirty-five between 91 and 100. The greatest number of deaths for a given age occurred at 66 years, at which age eighty-eight deaths were noted.

Causes of Death.—Of the 2,449 known causes of death, 509 were diseases of the heart and circulatory system. General diseases accounted for 344 deaths; of these, 154 were from carcinoma and sarcoma, 44 from diabetes mellitus, 39 from septicemia, 37 from tuberculosis, 21 from anemia, 3 from typhoid fever and 46 from other diseases. Cerebral hemorrhage caused 234 deaths; paresis, 31; meningitis, 19; neuritis, 3; epidemic encephalitis, 5, and brain tumors and other diseases of the nervous system, 45. Pneumonia claimed 180 victims; influenza, 19; bronchitis, 5, and other diseases of the respiratory system, 35. Appendicitis caused 36 deaths; acute indigestion, 15; cirrhosis of the liver, 11; strangulated hernia, 10; biliary calculi, 8; gallstones 4, and other diseases of the digestive system, 30. Chronic nephritis accounted for 125; uremia, 38, and other diseases of the genito-urinary system, 18. Various diseases of the bone caused 4 deaths; senility, 456; sequels to operations, 93; and 22 deaths were due to complications not specified.

Accident and Homicide.—The causes and distribution of the 125 deaths from accident were: automobile-railway (grade crossing), 23; automobile, 39; firearms, 9; drowning, 7; street cars, 5; poison, roentgen-ray burns, falls, sleigh, lightning, collapsing roof and electrocution accounted for the remainder. The fifteen homicides were all due to firearms; of these, four physicians were shot by bandits, one by a maniac, and one by a nurse.

Suicide.—The fifty-six physicians who ended their lives by suicide selected these methods: firearms, 29; poison, 13; jumping from high places, 3; cutting instruments, 3; drowning, 3; asphyxiation, 2, and strangulation, 3.

Civil Positions.—Among the decedents who had held civil positions, one had been state governor; two, United States consuls; 40, members of the state legislature; 29, mayors of cities; 99, members of boards of health; 63, members of boards of education; 12, members of state boards of medical examiners; 6, postmasters; 4, police commissioners; 41, coroners; 4, bank presidents; 96 were veterans of the World War; 116, veterans of the Civil War; 8, missionaries, and 8, clergymen. Two past presidents of the American Medical Association died, four vice presidents, and the secretary; also, twenty-two former presidents of state associations.

PRESENT STATUS OF "INSULIN"

About one year ago it was announced that Banting and Best, working in the University of Toronto, had succeeded in isolating from the pancreas a substance capable of causing a marked reduction in the percentage of blood sugar and in the excretion of sugar in the urine of diabetic dogs. Since that time marked progress has been made in the clinical study of the preparation, but, unfortunately, uncontrolled newspaper announcements have given misleadingly exaggerated ideas of its possibilities. It is, therefore, well to have from Dr. J. J. R. Macleod, in whose department the work was conducted, an official statement concerning the present status of the use of this substance.[1]

The original preparation prepared by Banting and Best was a saline extract of the residue of the pancreatic tissue remaining some weeks after the ducts had been ligated. It was shown that this active principle is soluble in alcohol, and J. B. Collip succeeded in preparing an extract that is practically protein-free and nonirritant on subcutaneous injection. Although it was possible to prepare the product on a small scale, early attempts to prepare it in quantities met with difficulties. Furthermore, investigations on animals showed that the product when taken in an overdose produces alarming toxic symptoms. This made it desirable in the interest of public safety to withhold general publication of the method of preparation and general distribution of the product until some satisfactory method could be found for preparing it in marketable quantities. The broadcast issuing of products of

1. Macleod, J. J. R.: Insulin and the Steps Taken to Secure an Effective Preparation, Canad. M. A. J. **12**: 899 (Dec.) 1922.

varying potency would result in contradictory and unsatisfactory results which would delay, if not prevent, an adequate understanding of the value of the substance, and might result in serious consequences.

The investigators have, therefore, applied for patents for their product in Canada, the United States and Great Britain, and have formally tendered the patents, when granted, to the University of Toronto. The university has accepted the trust on the understanding that the patents shall be employed for the sole purpose of safeguarding the production of the substance against commercial exploitation, and to insure the marketing of a standardized product. Dr. Macleod states that "the method by which the university intends to fulfil these conditions is to license approved manufacturers to produce 'Insulin' under the patents subject to their satisfying the university by frequent submission of samples of their product that it is of adequate potency and purity." A royalty will be charged the licensees in order to maintain a testing laboratory, and any surplus income will be used for research. The original investigators receive no monetary return from the sales. In the meantime, several large commercial chemical houses are investigating the problem of producing the substance in large quantities, and a number of physicians conducting clinics in large hospitals are testing the products produced, under controlled conditions. Dr. Macleod states that this collaboration will be continued until there is every reason to believe that a product of standard potency and nontoxicity can be manufactured with certainty. From the present indications it is hoped that the experimental period will be ended some time during the first half of 1923.

As to the clinical use of the product, it is the belief of Dr. Macleod that it will probably never entirely replace careful dietary regulation, but that it is of undoubted value in assisting the weakened power to metabolize carbohydrate. The preparation, as made at present, must be given subcutaneously, usually in 2 or 3 c.c. doses twice daily; it is hoped that other methods of administration may soon be discovered.

These investigators and the university with which they are affiliated are to be congratulated on the methods they have adopted for controlling the production and the marketing of a product which holds large therapeutic promise. Such an investigation as they have outlined and are undertaking should be sufficient to show not only its value in the treatment of this hitherto very difficultly controlled disease, but also its limitations. It is to be hoped that when the investigations are finally completed the directors will also insist on controlling the advertising claims and methods of marketing, the fields in which the greatest abuses have crept in heretofore in connection with other proprietary substances. The conservative and scientific methods that have so far characterized the development of this new agent warrant the belief that the therapeutic claims will be so controlled.

THE DISAPPOINTMENTS OF HEXAMETHYLENAMIN

Hexamethylenamin, first introduced under various proprietary names, has at length joined the large and growing group of drugs of which much has been expected and still more promised in a therapeutic way, but which have failed to justify the hopes of their champions. It cannot be said that too little time has elapsed to permit a correct evaluation of the claims for hexamethylenamin, since a quarter of a century or more has intervened since the earliest announcement of its possible therapeutic significance. The drug owes its action entirely to the liberation of the antiseptic formaldehyd, a reaction now known to occur only in acid solutions. Hexamethylenamin itself is not actively antiseptic. The use to which it is still devoted with apparent scientific justification is in preventing the growth of micro-organisms in the urinary tract, and in destroying them when they are present in the urine during infectious diseases, such as typhoid fever. The drug is recommended as an antiseptic in cystitis, and as a prophylactic prior to operations on the urinary tract. In any event, its possible efficacy depends on the elimination of the drug through the kidneys with a urine that remains distinctly acid in reaction; otherwise, no benefit is to be expected. Such acidity may often be insured by simultaneous administration of substances like acid phosphates, which promote the secretion of an acid urine.

As it has been shown that antiseptic effects cannot occur in the body tissues and fluids that have a neutral or slightly alkaline reaction,[1] the hope that hexamethylenamin might function to destroy dangerous germs within the tissues themselves has been shattered. Contrary to what was at one time proposed, it has no material antiseptic value in the cerebrospinal fluid during spinal meningitis. Hexamethylenamin has been recommended as a solvent for uric acid, and has met the fate of most of its competitors for favor in the attempted execution of an almost impossible task.

And now it has been shorn of another reputed property, that of diuretic potency, by the studies of Ruh and Hanzlik.[2] These involved careful measurements of intake and output of fluid, not mere bedside guesses. Hexamethylenamin, whether used in small or in larger doses, is not a diuretic. The duration of the excretion of hexamethylenamin in the urine ranged from twenty-four to forty-one hours, being somewhat longer with larger doses used, but independent of fluid intake and diuresis. This, too, is contrary to current conceptions.

To complete the story of failure, it may be added that hexamethylenamin is said to be liable to produce

1. Hanzlik, P. J., and Collins, R. J.: Hexamethylenamin, Arch. Int. Med. **12**: 578 (Nov.) 1913. Hanzlik, P. J.: The Liberation of Formaldehyd from Hexamethylenamin in Pathologic Fluids, J. A. M. A. **72**: 295 (Jan. 24) 1914.

2. Ruh, H. O., and Hanzlik, P. J.: Hexamethylenamin as a Diuretic, J. A. M. A. **79**: 1980 (Dec. 8) 1922.

renal irritation when the dosage is unduly large or its use protracted. The trade names under which the drug has been widely advertised are numerous. Various compounds of the substance also have been added in recent years to the list to be exploited. They simply possess the actions of hexamethylenamin and the salts of the acid with which it may be combined.[3] The long story of this drug, lauded alike legitimately and fraudulently, filled with promise by the facile pen of advertising writers, and stripped of much of this vaunted glory by the tests of critical investigators, should be a wholesome lesson to those in whom great expectations are easily awakened. It is a lesson often repeated in the history of therapeutics—and the drug business.

INFANT MORTALITY IN RELATION TO INFANT FEEDING

Medical science is something more than a reconstructive force that heals the sick; it has become prophylactic in the broadest sense. The medical profession must watch the public health and protect it against unexpected attack or other avertible disaster; it must also teach the nation how best to rear the generation that is next to bear the burden. Viewed from the momentous consequences entailed by such a program, it is obvious that the information imparted should be sound —unbiased in its formulation and defensible in its precepts. There is a widespread belief that the simplest and at the same time the best way to feed an infant is to nurse it. "Happy the baby who enjoys his inalienable right to Nature's food supply—his own mother's milk," writes Mrs. Rose.[4] "His chances of a long and healthy life are immensely greater than those of the poor child who has to be artificially fed. In case of misfortune depriving him of his natural food supply, the best substitute is the milk of some other healthy woman with a baby of approximately the same age, but unfortunately this kind of substitute is not readily commanded by the average family."

If such pronouncements are to be made the basis of a nation-wide or even internationally applicable "appeal to reason," they must be based on incontrovertible facts rather than the traditions of the textbook writers. Usually, statistics of infant mortality are called on to substantiate the claim for the pronounced superiority of breast feeding. It has often been pointed out, however, that the artificial feeding of infants may be accompanied by unfavorable environmental conditions among the less well-to-do, and that a variety of such factors need to be evaluated carefully before any indisputable generalizations about diet alone are made.

Furthermore, many of the statistical data belong to earlier times, when living conditions among the families in which artificial feeding of infants prevailed were less satisfactory than today, and when the science of nutrition had not begun to make itself felt as a factor in the welfare of all classes. The place assumed by food regulating agencies in many countries during the World War attests the new era.[5] Has the newer knowledge served sufficiently to change current food habits and practices and thus to make the older views untenable in their application to present day conditions? The importance of up-to-date information is emphasized in a still different way by a recent statement of the director[6] of statistical research in the Children's Bureau, U. S. Department of Labor, insisting that, in view of the importance of the subject, statistical evidence of the relative influence of artificial and breast feeding on infant mortality seems surprisingly meager. According to this government expert, most of the data that are available relate to foreign cities or districts where special censuses of the kind of feeding received by the infant population have been taken and used in connection with records of the kind of feeding received by infants who died, or where other types of special inquiries have been made to ascertain the type of feeding prevailing.

The Children's Bureau has obtained information, soon to be issued in detail, regarding the influence of feeding on the mortality of more than 22,000 live born infants in eight representative cities of the eastern United States. The records extend from birth to the first birthday. They show that artificial feeding, as actually practiced in typical American city populations, is associated with a mortality between three and four times as high as the mortality among breast-fed infants. According to Woodbury,[6] this outcome is not to be explained either by the slight overweighting of the group of artificially fed infants, with infants in certain groups characterized by high mortality rates; and it appears in all nationality and in all earnings groups, though with variations depending probably on the particular conditions prevailing in the groups. Such facts are telling, and they give added support to current teachings of the continued importance of breast feeding. It is instructive and impressive to learn that, restricting the figures to the first nine months of life, during which the type of feeding is of greater importance than in the last three months of the first year, of the 192,212 months lived by the infants studied, 57 per cent. were lived by those while breast fed, 18 per cent. while partly breast fed, and 25 per cent. while artificially fed. Or, again, during the first nine months, 870 deaths of artificially fed infants occurred, as compared with only 181 that would have been expected at the rate of mortality prevailing among the breast-fed infants.

As an aid to the solution of these problems, THE JOURNAL begins, in this issue, a series of articles on

3. Hexamethylenamine and Hexamethylenamine Compounds, New and Nonofficial Remedies, 1922, p. 131.
4. Rose, Mary S.: Feeding the Family, New York, the Macmillan Company, 1916, p. 98.
5. Food and the War: U. S. Food Administration, Houghton, Mifflin Company, 1918.
6. Woodbury, R. M.: The Relation Between Breast and Artificial Feeding and Infant Mortality, Am. J. Hyg. 2: 668 (Nov.) 1922.

"The Care and Feeding of Infants." The series is addressed particularly to the general practitioner, and it is hoped that it will be of service in rendering advice regarding feeding problems in infancy. The great value of breast feeding is proved; but such trenchant facts as have been cited should not lead to pessimism in infant nutrition. No one can defend the position that science cannot greatly improve the artificial feeding of infants if it cannot actually provide the equivalent of the secretion of the human mammary gland. Science must strive to equal the perfections as well as to correct the imperfections of Nature.

Current Comment

GENERAL REACTIONS FOLLOWING TRANSFUSION OF BLOOD

After the transfusion of blood, unfavorable general reactions may arise, sometimes apparently in spite of the fact that preliminary tests have shown that the blood of the donor and that of the recipient are compatible. The results of recent experiments by Dyke,[1] who studied the iso-agglutinative power of human serum by comparative methods, may help to explain why such unfavorable reactions sometimes ensue. Dyke found that the serum of Group 1 according to the Jansky classification may vary not only in iso-agglutinative strength in different persons but also in the same person at different times; furthermore, that the corpuscles from different persons of Group 4 may vary in their agglutinability by the serums of Groups 1, 2 and 3; hence corpuscles of Group 4 may be placed wrongly, especially in cases in which the agglutinating power of the serum for Groups 2 and 3 is low, and Dyke suggests that only those serums of Groups 2 and 3 should be used for testing that are able to cause definite agglutination when diluted 1 : 10. According to Levine and Segall,[2] prolonged etherization may cause a temporary change in iso-agglutinative phenomena. In three cases the serum of patients, previously compatible by direct tests with the blood of prospective donors, was found to agglutinate the corpuscles of the donors in question, the most likely cause for this change being a prolonged ether anesthesia in each case. This change in agglutination was only temporary, but the observation, which should be extended, suggests that ether, being a lipoid solvent, may change the state of the blood in such a way as to modify the action of the iso-agglutinins present. Ottenberg[3] points out that a source of error in testing for blood compatibility is using deteriorated or weak serums, and that all tests should be made in duplicate with active test serums. In all cases of doubt both serum and cells of the patient should be tested. It will be recalled that some time ago a special committee, appointed by the American Association of Immunologists, the Society of American Bacteriologists, and the Association of Pathologists and Bacteriologists, recommended that the Jansky classification of persons according to iso-hemagglutination be adopted generally, in order to avoid the confusion and the possibility of accident due to the use of both the Jansky and the Moss classifications.[4] Confusion, with serious results, is almost certain to occur when prospective donors are grouped now according to the one particular classification, now according to another. The growth of a special class of persons who offer their services as professional donors, and who may travel about and announce themselves as belonging to this or that group, undoubtedly may prove a source of danger unless the grouping claimed is verified with special care. All danger from such sources will be removed by the adoption everywhere of the Jansky grouping.

1. Dyke, S. C.: On Isohemagglutination, Brit. J. Exper. Path. **3**: 146 (June) 1922.
2. Levine, E. C., and Segall, H. N.: Surg., Gynec. & Obst. **35**: 313 (Sept.) 1922.
3. Ottenberg, Reuben: Medicolegal Application of Human Blood Grouping, J. A. M. A. **79**: 2137 (Dec. 23) 1922.
4. Isohemagglutination: Recommendation that the Jansky Classification Be Adopted for Universial Use, J. A. M. A. **76**: 130 (Jan. 8) 1921.

MILD SMALLPOX (?)

On more than one occasion, recently, THE JOURNAL has drawn attention to the virulent trend of smallpox. The situation cannot be overemphasized, in view of the recent experience of Denver. That the remotest community is not immune, and that the cloak of mildness may hide for a time the real nature of the disease already present, is exemplified in the report of the county health officer of Biloxi, Miss., noted in *Public Health Reports*, Dec. 29, 1922:

> We have had nine cases of chickenpox reported. Chickenpox makes us think of smallpox, so I went to investigate and located a genuine case, confluent in type, resulting fatally. The victim, Dr. Fetters, a chiropractor, of Biloxi, recently from Denver, had never been vaccinated. Biloxi has had a number of mild cases of smallpox during the past few years, and some citizens are not being vaccinated as they should. A few cases like the one mentioned above would help to persuade them of the effectiveness and necessity of vaccination.

NEW REGULATIONS ON MARKETING OF MEDICINAL WHISKY

Bottled-in-bond whisky will from now on gradually replace bulk whisky for medicinal use, under a decision recently issued by the Commissioner of Internal Revenue (see page 44 of this issue). This decision is the outcome of the resolution adopted by the House of Delegates in St. Louis, last May, recommending that provision be made for the marketing of whisky in bottled-in-bond containers, so that physicians who prescribe whisky may have some assurance that their patients will receive the genuine article. Throughout the conferences that have been carried on, the officers of the Association have met with cordial cooperation on the part of government officials. All agreed that, so far as it is necessary to use whisky for medicinal purposes, the supply should be of known purity. In the absence of any legal standard of purity, except that provided by the Bottled-in-Bond Act, it was generally conceded that any provision whereby bottled-in-bond whisky would be made available for medicinal uses to the patient in original sealed containers would go a

long way toward solving the problem. One difficulty has been to find some way in which this could be done; that difficulty has been largely overcome in the decision just issued.

THE CLEVELAND HOSPITAL AND HEALTH SURVEY, TWO YEARS AFTER

Nearly two years ago, THE JOURNAL [1] congratulated the city of Cleveland for submitting to a complete physical examination from a health point of view, and for a frank report of the findings. It was predicted that this would result in great saving of life, and in increased health and happiness; and that this has been the case is indicated in the recent report [2] of the hospital council. The hospital and health survey was begun in November, 1919. It is not claimed that all of the health improvements which have occurred should be credited to the survey, but credit seems due it for certain definite and far-reaching results. The sanitary code of the city, which had been under consideration for a number of years before the survey was made, has since become a law. The reorganization of the hospitals of the city and of the city hospital training school for nurses should be in part, at least, attributed to the survey, as should also the city hospital bond issue.

THE BUFF SUBSCRIPTION BLANK

Following the insertion of a special subscription blank in THE JOURNAL a few weeks ago, numerous subscribers availed themselves of the opportunity to aid the Association in the problem of securing the annual subscription and fellowship dues without sending special bills. At the same time numerous Fellows of the Association added to the check for THE JOURNAL subscription a subscription to *Hygeia,* the new publication on individual and community health to be issued by the Association in March. Since the blank inserted several weeks ago may have been overlooked, a new blank is inserted in this issue. The saving to the Association in postage and in clerical work is a considerable one and represents additional work which the Association is able to perform for its Fellows and subscribers, as well as for the public. Every Fellow who is personally interested in the progress of the Association may aid by availing himself of the opportunity to remit, using this blank.

1. The Cleveland Hospital and Health Survey, Current Comment, J. A. M. A. **76**: 383 (Feb. 5) 1921.
2. The Cleveland Hospital and Health Survey, Two Years After, Cleveland, the Cleveland Hospital Council, 1921-1922.

Economic Loss from Disease.—Considering the economic loss due to a single disease, it is estimated that in 1922 the loss from tuberculosis will be $521,000,000. In addition, we shall pay for the care of the tuberculous a total of $663,000,000 or $6 for every man, woman and child in the United States. If there was no tuberculosis, the average life of Americans would be lengthened two and a half years, and the consequent gain in the next fifty years would be $27,000,000,000, or more than our total national debt. Experts say we can wipe out tuberculosis. Add to this the gain from the eradication of other preventable diseases, and the amount becomes stupendous.—Palmer, *Collier's Weekly.*

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Dengue in Montgomery.—According to official statistics, 129 cases of dengue were reported up to December 15. No deaths have occurred, and while some cases were reported early in December, the disease is gradually subsiding.

County Elections.—Drs. Charles E. Ford and William W. Stevenson were elected president and secretary-treasurer, respectively, of the Randolph County Medical Association at Roanoke, December 14.——At the annual meeting of the Shelby County Medical Society, Dr. Claudius O. Lawrence was elected president and Dr. Willena Peck, secretary-treasurer.——Dr. John C. Bragg, Albany, was recently elected president of the Morgan County Medical Society.

ARKANSAS

Personal.—The Sebastian County Medical Society elected the following officers for the ensuing year: Drs. Willis F. Rose, Fort Smith, president; Walter G. Eberle, Fort Smith, vice president; Hardy H. Smith, Fort Smith, treasurer, and Jefferson D. Southard, Fort Smith, secretary.——Dr. Leonidas Kirby, Harrison, was recently elected president of the state board of health.——Dr. Erasmus S. Baker and Dr. Felix M. Scott were recently elected president and secretary-treasurer, respectively, of the Green County Medical Society.

CALIFORNIA

Recent Election Summarized.—Following are the results of the vote on medical measures in the recent state election: antivivisection, 226,339, for; 514,783, against; chiropractic measure, 481,000, for; 327,849, against; osteopathic measure, 439,775, for; 327,819, against.

COLORADO

Smallpox and Vaccination in Denver.—The department of health and charity of Denver has issued a leaflet giving information regarding the outbreak of smallpox in that city. During the thirteen month period from Nov. 1, 1921, to Nov. 30, 1922, the cases of smallpox numbered 854, with 263 deaths. The leaflet contains the names of all those who died during September, October and November, 1922. In the fatal cases, 240 patients had not been vaccinated, and twenty-three had been vaccinated. Analyzing the vaccination histories available of those who had been vaccinated before contracting the disease, it was found that thirty-eight years was the average time which had elapsed between vaccination and contracting the disease. More than one half were vaccinated more than thirty-five years before the disease was contracted; 75 per cent. were vaccinated more than twenty-five years before, and 90 per cent. more than fifteen years before. In three cases, seven years had elapsed since vaccination, and one patient had been vaccinated five years before. These data, says *Public Health Reports,* Dec. 22, 1922, emphasize the fact that vaccination and revaccination are the most effective means for the control of smallpox, but they remind us that one vaccination does not (in all cases) protect the individual throughout his entire lifetime.

CONNECTICUT

University News.—Yandell Henderson, Ph.D., professor of applied physiology at Yale University, has been elected an honorary member of the Coal Mining Institute of America in recognition of his contributions to resuscitation from mine gases.

Public Health Association Meets.—The annual meeting of the Connecticut Public Health Association will be held at the Hotel Garde, New Haven, at 11 o'clock, January 10. The subjects to be discussed are: the vaccination laws of Connecticut and the present danger of smallpox; the need of branch state diagnostic laboratories, and the present law governing the medical inspection of schoolchildren.

FLORIDA

Mosquito Survey at St. Augustine.—The state board of health has started a mosquito survey of St. Augustine. Assistance was given by the local troop of Boy Scouts, who made a house to house canvass with questionnaires which concerned the mosquito problem and general sanitary conditions.

GEORGIA

Wesley Memorial Hospital Opened.—The new Wesley Memorial Hospital, erected by the Southern Methodists on the campus of Emory University, Atlanta, was formally opened with appropriate exercises, December 1. It is a six story, stucco building and has an initial capacity of 200 beds. The Lucy Elizabeth Candler Memorial Hospital is connected with the main building and contains sixty-five beds divided between the children's hospital and the maternity pavilion. Walker White, former treasurer of the university, is superintendent and secretary of the institution.

ILLINOIS

Physician Acquitted.—Dr. Albert Willis, Christopher, was acquitted of the charge of having caused the death of Miss Mary Shifflett of Leroy, it is reported.

Personal.—Dr. Franklin A. Turner has been appointed director of hygiene of the Rockford public schools to succeed Dr. Dudley W. Day, who has resigned.

Diphtheria Increases.—It is reported that 180 cases of diphtheria were reported to the state board of health the first week in September, and the first week in October showed 340 cases. The first week of December, the total number amounted to 480.

Smallpox at New Lenox.—An outbreak of fifteen cases of smallpox at New Lenox in Will County was reported by a district health superintendent to the state department of public health, December 30. The cases were of a mild type and no effective quarantine had been established prior to the investigation by the district health superintendent.

Medical Society Elects Officers.—At the annual meeting of the Kane County Medical Society, at which Dr. Bertram W. Sippy gave an address on the treatment of gastric ulcer, the following officers were elected for 1923: Dr. Herman A. Brennecke, Aurora, president; Dr. Emmett L. Lee, Aurora, vice president, and Dr. Lawrence J. Hughes, secretary-treasurer.

Rabbits Have Hemorrhagic Septicemia.—A district health superintendent attached to the state department of public health, and a hygienic laboratory expert attached to the U. S. Public Health Service, have completed an investigation of the cause of a deadly infection which has recently spread among rabbits in the southern part of the state. Their report says that the rabbits are suffering from hemorrhagic septicemia.

Physician Fined.—It is reported that Dr. Carl A. Starck of Palatine was fined $200 and costs for violating quarantine regulations. The specific charge against Dr. Starck was for terminating the quarantine of a diphtheria patient on his own initiative, without reference to local health authorities and in violation of the state regulations. The charges, which were the second of the kind within sixty days, were brought at the request of field men attached to the state department of public health.

Diagnostic Laboratory Work Expanding.—During November, 1922, a new monthly high record of tests was again established by the diagnostic laboratory of the state health department. The main laboratory made nearly 14,000 examinations, an increase of about 40 per cent. over those made in November, 1921. Most of this increase was in diphtheria examinations, although there was a smaller number of diphtheria cases reported from the state this year than last. One of the factors responsible for the increase in examinations is the greater number of cultures being taken before release from quarantine. This has been brought about through the activities of the district health superintendents and other educational agencies.

Chicago

Memorial Exercises for Dr. William E. Quine.—On Wednesday evening, January 10, the regular meeting of the Chicago Medical Society will be devoted to exercises in memory of Dr. William E. Quine. The speakers will include Drs. William A. Pusey, Frank Billings, A. E. Wynekoop, Bishop Hartzell and Mr. John T. Richards. The regular meeting place in the Marshall Field Annex will be used for this occasion.

New Hospital Building.—Construction work on the new ten-story building for the Chicago Eye, Ear, Nose and Throat College and Hospital will be started in April, 1923. It will be located on the northeast corner of Market and Randolph streets. The first floor will be leased and the second and third floors will be for clinic and operating rooms. The upper seven floors will contain private rooms for patients. The estimated cost of the structure is $400,000.

INDIANA

Personal.—Dr. Thomas C. Dodds, Hartford City, was severely injured recently when the automobile in which he was riding was overturned and wrecked.

Cornerstone Laid.—The cornerstone for the new nurses' home and administration building at the City Hospital was laid with appropriate ceremonies, December 22. The estimated cost of the completed building is $425,000.

Physician Fined.—Dr. Emmet E. Rose was recently fined $25 and costs for failure to obey a traffic signal. It is said that Dr. Rose has been arrested three times within as many weeks for alleged violations of traffic ordinances. On the first occasion, he was sentenced to six hours in the city prison for contempt of court.

Meat Inspection.—Indianapolis has recently passed an ordinance prohibiting meats which have not been inspected by the city, before and after the killing of the animals, from entering the city. A state meat inspection system by the state board of health is contemplated, in view of the agitation arising since the ordinance was passed.

A Twelve Hundred Dollar "Cancer Cure."—The Anderson *Bulletin* reports that a warrant was issued for the arrest of "Dr." Ralph Williamson, said to be known locally as a "suggesto-therapist." Williamson, it is claimed, is charged with selling (for $1,200) to a school teacher, "a secret prescription or formula for the cure of tumors and cancer." The complainant asserts that the remedy is of no value.

New Medical Society Formed.—At a banquet and meeting of the Northeastern Indiana Medical Society in Kendallville, December 15, a permanent organization of four counties was effected, with Dr. Martin E. Klingler, Garrett, as president; Dr. Harold O. Williams, Kendallville, vice president, and Dr. Amos J. Hostettler, La Grange, secretary-treasurer. Dr. Willis Stanley Gibson, professor of pediatrics, Northwestern University Medical School, Chicago, gave an address on "Diphtheria and the Schick Test."

IOWA

Personal.—Dr. Frank N. Bay of Albia has been appointed county physician by the board of supervisors.

KANSAS

Hospital News.—The Sabetha Hospital, Sabetha, has planned an addition to cost $100,000.

LOUISIANA

Personal.—Dr. Joseph M. Tolivar, New Orleans, has tendered his resignation from the U. S. Department of Justice, the resignation to be effective January 15.

Practitioners Sentenced.—Walter and Joseph Fife, who were tried and convicted at Lake Charles, October 21, of practicing medicine without a license, according to report, were recently sentenced to sixty days in jail.

MAINE

Physicians Indicted.—It is reported that Dr. Frederick W. Tozer of Portland, and Dr. Erwin C. Ruth of Boston, formerly director of the New England division of the narcotic bureau, have been indicted by a federal grand jury on charges of conspiracy to defraud the government.

MARYLAND

University News.—Dr. K. F. Wenckebach, professor of internal medicine at the University of Vienna, will deliver the twelfth course of Herter lectures in pathology at the Johns Hopkins University Medical School. Dr. Wenckebach will arrive in this country in April.

MASSACHUSETTS

Personal.—Col. Walter B. Cannon, M.O.R.C., Cambridge, has been awarded the distinguished service medal "for exceptionally meritorious service as director of physiological

research for the American Expeditionary Forces in France." ——Dr. Isolde Zeckwer of Philadelphia has been appointed resident pathologist at the Long Island Hospital, Boston.

Fine for Practicing Without a License.—A fine of $100 on the charge of practicing medicine without a license, in violation of state laws, was imposed on J. Fred Balcourt, Haverhill, when he was arraigned before Judge Winn, it is reported.

Upholds $1,500 Verdict in Suit Against Physician.—The supreme court yesterday decided, according to report, that Miss Georgianna Chesley, a Haverhill school teacher, is to retain the $1,500 she obtained from an Essex jury in a suit against Dr. Charles E. Durant of Haverhill for leaving rubber tubing in the wound of an operation for appendicitis, performed July 25, 1916.

MICHIGAN

Public Health Lectures.—The joint committee on public health education has filled more than sixty engagements for public lectures on scientific medicine, recently. It is estimated that about 300 lectures will be given during the coming winter.

Clubhouse for Medical Society.—At the annual meeting of the Kent County Medical Society at Grand Rapids, December 13, it was proposed that a clubhouse be erected for the society, to include club rooms, library and amphitheater. A resolution was also passed opposing the removal of the University of Michigan nurses' training school. Dr. R. J. Hutchinson succeeded Dr. Alden Williams as president; Dr. R. C. Bruce was elected vice president, and Dr. Frank C. Kinsey, secretary.

MINNESOTA

Hospital News.—The Lyman Hurst Hospital, Minneapolis, recently opened a department for the examination of schoolchildren for heart disease. The work is conducted by the board of education and city health department, and Dr. W. F. Reasner and Dr. Max Seham are the physicians in charge of the medical work.——The Mounds Park Sanitarium, St. Paul, announces the completion of a psychopathic department organized for the treatment of the milder phychoses.

Trachoma Survey.—Federal and state health officials are uniting in conducting a trachoma survey among the Indian and the white population in the northern section of the state. Trachoma, which is prevalent among the Indians on White Earth Reservation, it is feared may spread to the whites. Following the survey, Dr. A. J. Cesley, executive secretary of the state board of health, and Dr. Taliaferro Clark, U. S. Public Health Service, will outline a program for eradicating the menace, and present it to the state legislature. Numerous delegations in the past have waited on the Indian commissioner and Governor Preus, with the hope of obtaining the discarded hospital buildings on the White Earth Reservation for the use of trachoma victims among Indians, but no action has developed.

MISSOURI

New High School to Commemorate Name of Dr. William Beaumont.—The board of education of St. Louis adopted, December 12, the recommendation of its instruction committee to name the new high school on Natural Bridge Road in honor of Dr. William Beaumont, who, in addition to his well known services to the science of physiology, served as president of the St. Louis Medical Society in 1841.

MONTANA

Personal.—Dr. James L. Atkinson of Poplar, while making a professional call and attempting to cross the upper Missouri River, which was frozen, fell off an embankment and was seriously injured.——Dr. Ernest D. Hitchcock of Great Falls has been appointed director of the hygienic laboratory of the state board of health, to succeed the late Dr. Francis A. Coward, who succeeded Dr. Hitchcock in this office, August 1.

NEW HAMPSHIRE

Personal.—Dr. Samuel T. Ladd was elected mayor of Portsmouth, December 12.

NEW YORK

Personal.—Dr. Jacob Sobel was appointed a member of the medical advisory board of the board of health at a meeting, Dec. 13, 1922.——Dr. L. Duncan Bulkley has retired from the staff of the New York Skin and Cancer Hospital.

Fourth Harvey Society Lecture.—Dr. William T. Bovie, Ph.D., professor of biophysics, Harvard University, will deliver the fourth Harvey Society lecture at the New York Academy of Medicine, January 13. Dr. Bovie's subject will be "The Physiological Effects of Light Rays."

University of Louvain Honors American Surgeon.—The editors of the press of the University of Louvain have selected "The Cancer Problem," by Dr. William Seaman Bainbridge, as the first book to appear from the university's reconstructed press. The author brought the book up to date at the editors' request; it was then translated and printed.

School for Health Nurses.—Eighteen classes have been started in various parts of the state for the special instruction of public health nurses in the hygiene of maternity. More than 300 nurses are now receiving this instruction, and a considerable number are registered for a second series of classes to be started in the spring. Between now and March 1, 1923, classes in the first series will be held in Albany, Ithaca, Buffalo, Jamestown, Poughkeepsie, Canandaigua, White Plains, Gloversville, Kingston, Utica, Schenectady, Rome and Ogdensburg. The object of the course is to equip nurses with the information necessary in order that they may act as teachers of Mothers' Health Clubs.

Health Officers Form Clearing House.—Twenty-five health officers, representing cities and towns of the metropolitan district, met, December 18, at the office of Health Commissioner Copeland, and effected a temporary organization, in order that the metropolitan zone may be guarded by an exchange of information. Dr. Copeland was elected temporary president, and Dr. Louis I. Harris, director of the bureau of preventable disease of the health department, temporary secretary. The next meeting will be held Jan. 25, 1923, during the Health Show. A permanent organization will be effected, the purpose of which will be to unite the health offices in towns and cities in the metropolitan zone, for the purpose of establishing a clearing house of information, and for cooperation in all matters that concern public health.

New York City

Sentenced for Practicing Without License.—Dr. Fritz H. Hirschland of Flushing, L. I., has been sentenced to the penitentiary for from six months to three years for practicing medicine without a license, it is reported. Dr. Hirschland, who stated that he is a graduate of a German university, pleaded guilty to the charge.

Hospital Ends Ambulance Service.—The board of trustees of the Flower Hospital discontinued their public ambulance service, December 31. This action was taken after a conference with Bird S. Coler, commissioner of public welfare, who assured the board that arrangements could be made with other hospitals to take care of the ambulance calls that ordinarily are sent by police to Flower Hospital.

A Part-Time Service for Physicians.—The Bureau of Part Time Work, a noncommercial bureau for finding part-time work for the higher grade of women, has just completed its first year. It makes a specialty of supplying physicians' secretaries and nurses, laboratory technicians, clinic assistants and hourly nurses. The centralization of part-time work is a new experiment, financed by a New York philanthropist, and seems to fill a definite need. The headquarters of the bureau are at 105 East Fortieth Street.

Students' Health Association Meets.—The third annual meeting of the American Students' Health Association was held at Columbia University, December 28 and 29. The association represents fifty institutions of higher learning in the United States, and is interested in improving methods of teaching hygiene because "Society's investment in the relatively small number of men who reach college is too great to be wasted in educating individuals not physically equipped to meet the world after leaving college." Dr. John Sundwall of the University of Michigan, in addressing the meeting, said "The college course in hygiene should aim to instill an impelling desire in the student for physical efficiency, to acquaint him with the means of such efficiency, and to make him feel his responsibility to himself and the community in maintaining it." Dr. J. C. Raycroft of Princeton University was reelected president of the association.

Supervision of Commercial Laboratories.—The committee on civic policy of the Medical Society of the County of New York has formulated recommendations for the supervision of commercial laboratories. These recommendations require that a commercial laboratory be directed by a physician and serve the profession only. They shall make no division of

fees and give no rebates. They shall not advertise a consulting staff unless that staff actually does the work of the laboratory. In advertising, they shall publish a list of their fees and submit to the committee on civic policy of the Medical Society of the County of New York a list of their personnel. They shall conform to the standards of work set forth by authoritative bodies and shall comply with the public health law as regards equipment, and reports. The committee further recommends that such laboratories as comply with these requirements be granted a certificate testifying thereto, so that the profession may have a guarantee of expert and ethical service, and the laboratory an incentive to furnish it.

Committee Reports on Cornell Pay Clinic.—A committee composed of representatives of the New York County Medical Society, the Eastern Medical Society, the New York Physicians' Association, the Yorkville Medical Society and the Harlem Medical Society, appointed to make an investigation of the Cornell Pay Clinic recently, made a report through the committee on civic policy of the Medical Society of the County of New York. Among the outstanding features of the report are the following: The committee believes that a better mutual understanding between the Cornell Pay Clinic and the profession is in process of formation. A multiplication of clinics on the style of the Cornell Pay Clinic would work to the disadvantage of both the practitioner and the specialist. The Cornell Clinic, for example, had 114,108 visits in one year; of these 22,536 were new cases. The cost of treating these patients was $232,875.40. The majority of the patients were clerks, teachers, city employees and artisans. From this, it would seem that the clinic is doing unnecessary semicharity or modified charity work for patients who can as well be taken care of by the physicians at large without charity. The committee suggests that pay clinics be limited to the care of cases referred by practitioners for special diagnosis and consultation. All other cases, especially those of disgruntled or dissatisfied patients, or persons who are unacquainted with competent physicians within their economic needs, should be referred to the nearest hospital or clinic to secure the name and fee of a physician. A more cumbersome method consists in the organization of a reference bureau. The committee expresses the opinion that the group practice idea is on the wane and that there are signs of the rehabilitation of individualism in medicine.

NORTH CAROLINA

Personal.—Dr. Carl H. Verner has resigned the office of county health officer of Craven County, effective January 1.

Hospital News.—Work will be started at once on a new city hospital at Gastonia. The building will be erected on the highest point of land in the city on North Highland Street, and will cost $103,000.

Schools Closed Because of Influenza.—The City Council of Hickory ordered the schools closed, about December 5, on account of the prevalence of influenza. There were about 127 cases in the schools for white children, and it was said the situation in the colored schools was worse. The disease was in a mild form, and it was expected the schools would reopen in a few days.

Charges Against Physician Withdrawn.—Charges, which have been pending since last June, of violation of the Harrison Narcotic Law, against Dr. John R. Lowery, have been removed from the docket of the federal court. Three of the government's witnesses failed to appear, and it is said the judge stated that, in view of the circumstances, the ends of justice would be met by taking a nolle pros with leave, the district attorney agreeing to that course.

NORTH DAKOTA

Personal.—Dr. Louisa E. Boutelle, Grand Forks, has been appointed a member of the state board of health.

OHIO

Hospital News.—The St. Francis Hospital at Columbus has obtained ground for the erection of a five-story addition.

Physician Loses Appeal.—The court of appeals in the case of the state against Dr. Joseph J. Boone of Mount Victory, who was convicted in the mayor's court of violation of the Crabbe Law, reversed the finding of the common pleas court, which had reversed the finding of the mayor's court, it is reported. This decision remands the case to the mayor's court for execution.

PENNSYLVANIA

Philadelphia

Dr. Penniman Succeeds General Wood.—The trustees of the University of Pennsylvania have elected Dr. Josiah H. Penniman, who has been acting provost during the absence of Dr. Leonard Wood in the Philippines, as provost of the university. General Wood will remain in Manila.

Dr. Hawk No Longer with Jefferson Medical College.—Under date of December 26, the dean of Jefferson Medical College of Philadelphia announced that Dr. Philip B. Hawk was no longer connected with that institution either as professor of physiologic chemistry or in any other capacity.

College of Physicians Elect.—The section on general medicine of the College of Physicians of Philadelphia elected the following officers for 1923: Dr. Herman B. Allyn, chairman, and Dr. Edward J. G. Beardsley, clerk. The executive committee of the section, as appointed by the president of the college, consists of Dr. David Hiesman, chairman, Oliver H. Perry Pepper and Dr. John H. Musser, Jr.

SOUTH CAROLINA

Smallpox.—Dr. Augustus H. Hayden, state epidemiologist, recently conducted an investigation of the smallpox situation in Orangeburg County, where, it is said, he found forty cases in the Providence community.

Influenza Epidemic.—Influenza appeared in epidemic form early in December, and rapidly spread throughout the state. A total of 1,176 cases, with sixteen deaths from influenza and pneumonia, had been reported in the city of Columbia up to December 15, on which date a marked improvement in the situation was reported by the state health department.

Drastic Measure Proposed to Eradicate Rabies.—Compulsory inoculation of all dogs in the state has been approved by the state board of health; and announcement has been made that a bill covering this requirement will be prepared for introduction in the next general assembly. Three persons have died from rabies this year, and 725 have taken the Pasteur treatment.

Rural Health Work.—The annual report of the officer in charge of rural sanitation and county health work of the state board of health indicates that interest among the rural citizens in this work is increasing. This department conducted 13,155 examinations of schoolchildren in 1922; of this number, 6,951 had physical defects, and of the latter number 2,341 had the defects remedied. There were 31,351 typhoid inoculations; 5,181 children under 10 years of age were immunized against diphtheria, and 403 Pasteur treatments were administered.

TENNESSEE

Personal.—Dr. George T. Wilhelm, Memphis, has been appointed director of the department of hygiene and students' health service of the University of Tennessee.

Physician Gets Mistrial.—Having secured a reversal in the court of civil appeals following his conviction and sentence to the penitentiary in the federal district court in 1920, Dr. Lemuel B. McWhorter was given a second trial, December 5, which ended in a mistrial, owing, it is said, to a remark by a juror that Dr. McWhorter had made a fortune in the drug business. A third trial will probably take place in January or February.

Grand Jury Fails to Indict Physician.—The grand jury refused to indict Dr. Woodruff A. Banks, Chattanooga, who, it was reported, was charged with performing a criminal operation. Dr. Banks' conduct was recently under investigation by the local medical society, and the investigating committee reported him guilty of unethical conduct. However, Dr. Banks, after a vote by the society, was permitted to retain his membership.

TEXAS

Personal.—At a recent meeting of the Dallas County Medical Society, the following officers were elected: Dr. C. M. Rosser, president; Dr. Franklin A. Pierce, vice president, and Dr. William West Fowler, secretary.——Dr. William T. Largent, McKinney, has been reappointed health officer of Collin County for the third term.

North Texas Medical Association Elects Officers.—At the eighty-fourth semiannual meeting of the North Texas Medical Association, held recently in Dallas, the following officers were elected: Dr. Murphy M. Morrison, Denison, president; Dr. David M. Higgins, Gainesville, vice president, and Dr.

William S. Horn, Fort Worth, secretary-treasurer. The next meeting will be held in the spring, at Bonham.

UTAH

Personal.—Dr. Wilford W. Barber has been appointed director of the bureau of child hygiene of the state board of health.

VIRGINIA

Virginia Society of Oto-Laryngology and Ophthalmology.—At the annual meeting of the society in Norfolk, in November, the following officers were elected for the ensuing year: president, Dr. Elbyrne G. Gill, Roanoke; vice president, Dr. Joseph A. White, Richmond, and secretary-treasurer, Dr. Emanuel U. Wallerstein, Richmond. Hereafter, meetings will be held once a year. The next is scheduled for April, 1923, at Richmond.

Bronze Bust of Dr. Hunter McGuire.—A bronze bust of Dr. Hunter H. McGuire was recently presented to the medical College of Virginia by members of the family. Dr. McGuire, who was president of the American Medical Association in 1893, founded the University of Virginia College of Medicine, and was president of the college and chief surgeon of the army of northern Virginia during the Civil War. The bust, which was made by Dr. John W. Brodnax, associate professor of anatomy at the medical college, was presented with fitting ceremonies.

WEST VIRGINIA

Measles Epidemic.—There were eighty-one cases of measles in Wheeling, December 15, sixty-two in Warwood, and the others scattered over the remainder of the city. It is said that the spread of the disease has been checked.

WISCONSIN

Hospital News.—The Wausau Memorial Hospital, which is erecting a $750,000 building, took over the Wausau Hospital, January 1.

Course in Colloid Chemistry.—The department of chemistry of the University of Wisconsin announces a course in colloid chemistry to be conducted by Professor Svedberg of the University of Upsala, who will be in residence from Feb. 1 to Aug. 5, 1923. Professor Svedberg will give two lectures a week on the general theory of colloids and will direct the experimental researches of a number of graduate students during the second semester. A seminar in colloid chemistry will also be conducted during the second semester, the first half being devoted to theory and the second half to biologic applications of colloid chemistry. From June 12 to 15, a national symposium on colloid chemistry will be held at Madison, to which all scientists are invited. Those desiring to work under Professor Svedberg's direction, either during the second semester or during the summer session, should communicate promptly with Prof. Joseph H. Mathews, Ph.D., chairman of the department, since only a limited number can be accommodated.

CANADA

Hospital Donation.—Under the will of the late William Scott, of Egmondville, Ont., the sum of $40,000 has been donated to the town of Seaforth, Ont., for the erection and maintenance of a hospital.

Hospital News.—Ste. Justine's Hospital, Montreal, Quebec, was opened recently for inspection. A new wing has been added, making it possible to accommodate more than 150 children, where eighty were previously taken care of. The cost of the new building was $300,000.

University News.—Lord Byng, resident governor-general of Canada, Sir Robert Falconer of the University of Toronto and Dr. Herbert Gray of Toronto addressed the opening meeting of the National Student Conference which was held in Toronto recently. Students from nearly every country in the world were represented at this conference.

Special Instruction for Mental Defectives.—Owing to the large number of mentally deficient children attending the public schools in Toronto, Dr. C. J. O. Hastings, city health officer, has recommended that the board of education place in the estimates for next year an item to make provision for the separate teaching of mentally defective pupils.

The American Biochemical Society.—The society held its annual convention in Toronto, December 27-29. Dr. Frederick G. Banting of the University of Toronto was paid high tribute by the members of the society for his discovery of "insulin," a proposed treatment for diabetes. Dr. Banting's discovery was the chief topic of the concluding session of the convention, no less than nine papers being read by prominent scientists on this subject. Interest was added to this phase of the convention by the announcement of Dr. J. B. Collip that a new source of insulin had been discovered by him, in clams, and that the material is to be manufactured in Winnipeg, Man., his place of residence.——Officers of the society for 1923 were elected as follows: president, Philip A. Schaffer, Washington University; vice president, H. C. Sherman, Columbia University; secretary, Victor C. Meyers, New York Medical School, and treasurer, W. R. Bloor, Rochester, N. Y.

GENERAL

Phi Delta Epsilon Elects National Officers.—At the nineteenth annual convention of the Phi Delta Epsilon fraternity, held at Chicago, December 26-28, the following officers were elected for 1923: grand consul, Louis Bothman; vice grand consul, James W. Smith; chancellor, Monroe E. Greenberger; scribe, Henry B. Boley; historian, Charles Englander; marshall, Isidor Pilot; editor, Aaron Brown, and officers of trustees, Aaron Brown, Jacob Braun, A. J. Beller, and Leo S. Schwartz.

Western Society of Engineers Discuss Preventive Medicine.—At a meeting of the Western Society of Engineers, to be held January 5 in their rooms at 1735 Monadnock Building, Chicago, Dr. C. A. Kofoid, professor of zoology, University of California, will give an address on "Preventive Medicine and Sanitation in Relation to Human Efficiency." In addition, two films will be shown: "Unhooking the Hookworm" and "Exit Ascaris," loaned for the occasion by the Rockefeller Foundation and the U. S. Department of Agriculture, respectively. Members of the American Medical Association are cordially invited to attend, and to take part in the discussion following the address.

New Regulation on Medicinal Whisky.—Commissioner D. H. Blair of the Internal Revenue Department, just issued Treasury Decision 3418 governing the issuing of whisky for medicinal purposes:

> In the interest of the public health, and to prevent the use of impure, harmful and poisonous liquors, the withdrawal, for medicinal purposes, from distillery warehouses, general bonded warehouses, special bonded warehouses, concentration warehouses, or other warehouses in which untaxpaid spirits are held, of only such spirits, not including alcohol, as are bottled-in-bond, will be permitted on and after April 1, 1923, and special permits may be given to the owners of spirits in customs-bond and in free warehouses to bottle such spirits under the supervision of the Commissioner of Internal Revenue and upon the owner's giving sufficient bond against the unlawful diversion of such spirits while in transformation.

Administration of Maternity and Infancy Act.—The chairman of the federal board of maternity and infant hygiene, which under the Sheppard-Towner act must pass on the state's plans for use of the federal funds allotted them, reports that the board has not laid down any plan of work which a state must follow, "nor has it made approval of plans contingent on complying with certain conditions, each plan being considered on its merits." It intends, the report adds, that the plan of work shall originate in the state and be carried out by the state; and the plans which have been submitted and approved by the board differ widely, according to local conditions. Altogether forty-two states have accepted the terms of the act, twelve acceptances being by legislatures and the remaining thirty by governors, pending the next regular session of the legislature. Yearly statistics from 1915 to 1920 show an increase rather than a decrease in the mortality rate among mothers in connection with childbirth, and in 1920 the rate was higher in the United States than in any other country for which recent figures were available. Infant mortality has decreased, but the rate here is still not as low as in five other countries.

Principal Causes of Death, 1921.—The Department of Commerce announces that the compilations made by the Bureau of Census show that 1,032,009 deaths occurred in 1921 within the death registration area of the continental United States, representing a death rate of 11.6 per thousand population, as compared with 13.1 in 1920. The rate for 1921 is the lowest recorded in any year since the beginning of the annual compilations, in 1900. The death registration area (exclusive of the territory of Hawaii) in 1921 comprised thirty-four states, the District of Columbia, and sixteen cities in nonregistration states, with a total estimated population on July 1 of 88,667,602, or 82.2 per cent. of the estimated population of the United States. The death rate from cancer increased from 83.4 per hundred thousand in 1920 to 86 in

1921. Some of the other diseases for which the rates increased are diphtheria, typhoid fever, appendicitis, scarlet fever, diabetes and puerperal fever. The fatalities caused by automobile accidents and injuries show an increase from 10.4 per hundred thousand in 1920 to 11.5 in 1921. A marked decrease is shown in the death rate from tuberculosis, which was 99.4 in 1921 as compared with 114.2 in 1920; also in the death rate from influenza and pneumonia (all forms), which was 99.5 in 1921 as against 208.3 in 1920. The rates for measles, bronchitis, nephritis, whooping cough, heart disease, and diarrhea and enteritis also declined.

LATIN AMERICA

Hookworm Campaign in Brazil.—Most striking and effective is the hookworm poster recently issued by the S. Paulo health authorities. The different illustrations in color, picture the appearance of the blood in health and disease; a healthy peasant, properly clad and wearing boots, standing straight and ready to work, and a barefooted sick peasant, bending over and unable to do his task; coffee plantations with their red berries, healthy people with ruddy faces and hookworm patients with pale, sunken cheeks. The legends point out that a healthy farmer can do twice as much work as a hookworm patient.

Chair of Biologic Chemistry at Havana.—The chair of medical chemistry in the faculty of pharmacy at Havana has been abolished and the teaching of this branch has been transferred to the medical faculty and the name of the course changed to biologic chemistry. Dr. L. Plasencia, professor of microscopy and clinical chemistry, has been entrusted with the teaching of biologic chemistry, and in his inaugural lecture he announced that he has founded a special annual prize of 50 pesos, to be known as the Carlos Findlay prize in biologic chemistry, to be awarded to the student making the best record in this branch of study. The *Vida Nueva* reproduces his inaugural lecture in full.

Personal.—Dr. Gabriel Malda, head of the national public health department of Mexico, has been appointed vice president of the National Academy of Medicine. Dr. Malda was also recently made vice president of the American Public Health Association and head of the organizing committee of the seventh Latin American Medical Congress.—Dr. L. Rivero Borrell, a Mexican urologist, has returned to his country, after spending three years in Europe.——On the fiftieth anniversary of his entering medical practice, Dr. J. Ramón Icaza was tendered a banquet by his friends and pupils. A souvenir album was presented to him. Dr. Icaza is now president of the Mexican Medical Association and was formerly professor of surgical therapeutics.

FOREIGN

The Seventh Centenary of the University of Naples.—A committee has been formed to arrange for the celebration of this septicentennial in 1924.

Japanese Pharmacists Separate.—A movement to separate the pharmacists' profession from that of the medical practitioners in Japan is being conducted in the country on a large scale.

Personal.—Prof. S. Winogradsky, former director of the imperial institute for experimental medicine in Petrograd, has been recently appointed chief of a newly organized division of soil microbiology at the Pasteur Institute.

Officers of Spanish Society.—Officers were appointed by the Spanish Medico-Surgical Academy as follows: president, José Sánchez Covisa; vice presidents, Manuel Arredondo and Pedro Cienfuentes; secretary general, Santiago Carro; treasurer, Baldomero Castresana; accountant, Antonio Piga; librarian, José Sanchis Banús.

Scientific Congresses to Be Held Abroad.—The Second Pan-Pacific Scientific Congress will be held in Australia from August 13 to Sept. 3, 1923. The first session will be held at the University of Melbourne and the second session (August 21 to September 3) at the University of Sydney.—The tenth annual meeting of the Indian Science Congress will be held at Lucknow, Jan. 8-13, 1923, under the auspices of the Asiatic Society of Bengal. Sir M. Visesvaraya will preside. Lieut.-Col. C. A. Sprawson is chairman of the medical section.

Far Eastern Red Cross Convention.—The Far Eastern conference of representatives of Red Cross societies was held in Bangkok, Siam, November 29-December 7. The purpose of the conference was to lay before the organizations in the Orient the peace program of the Red Cross as adopted by the general council of the League in March, 1921. Delegates from Japan, China, India, Siam, the Philippine Islands, the East Indies, the Federated Malay States, French Indo-China, Australia and New Zealand were in attendance at the conference.

Memorials to Physicians.—A memorial tablet with bas-relief portraying the late Professor Maffucci of Pisa was recently unveiled by the provincial and military authorities of the province of Avellino.——A tablet has been placed on the wall of the town hall of the place where the late professor Grocco of Florence was born, and a statue erected on a public place.——An imposing memorial meeting was held recently at Rome to pay tribute to the late Dr. G. Fabbri, who initiated the work of protecting railroad employees against malaria, and devoted himself in recent years to helping the war blinded.

Scholarships in Neurologic Research.—The *Informateur* of Paris relates that the Laan Endowment, the seat of which is at Amsterdam, offers a scholarship of 250 florins a month to a research worker of either sex of any country, studying the nervous system along the lines specified by the R. A. Laan Endowment or suggested by the Netherlands Neurologic Society. Prof. C. Winkler of Utrecht is president of the endowment, and Dr. C. C. Delprat is secretary. The latter's address is Jan Luykenstraat 98, Amsterdam. The stipend is to be continued not longer than six or nine months to the same person. The committee passing on the applications includes the director of the central institute for the study of the brain at Amsterdam and one of the members of the committee for control of this institute appointed by the Netherlands Academy of Sciences.

The Swedish Institute of Eugenic Biology.—The *Informateur* relates that the government has appropriated 60,000 crowns toward the expenses of Dr. H. Lundborg's institute for biologic research on heredity and racial characteristics. Dr. Halkrantz has been appointed professor of research on heredity, and Dr. Nillsson-Ehle, professor of statistics. An experimental section for biopathology is planned, and a museum for the collection of data on hereditary factors. The settled character of the population in Sweden, generation after generation, affords unusual facilities for such research. Lundborg and his staff have published a number of studies along these lines, which have appeared mostly in the publications of the Swedish Medical Association. Lundborg is professor of psychiatry and neurology at the University of Upsala.

Radium in Belgian Congo.—The *Scalpel* of Brussels publishes an open letter from Dr. Matagne which was sent to all the members of the legislature of Belgium, pleading to have the radium found in the Belgian Congo kept for the benefit of Belgium, and not to be marketed. He cites the action of the French government in prohibiting the exportation of the radium found in Madagascar. The Austrian government before the war had also prohibited exportation of the Joachimstal radium or radium ore, and the Checkoslovakian government, he says, has confirmed this. The Oolen works are nearly ready with the first output of radium produced from the Katanga deposits in the Congo, and he urges prompt action by the government to prevent its being sold out of the country. He pleads for the foundation of a radium institute, to be the richest and finest in the world, with the radium from the Congo.

Public Health Matters in Syria.—The *Presse médicale* of Nov. 29, 1922, published an account of the organization of the public health and hospital system in Syria and Lebanon by the French high commissioner representing the French mandate in Syria since 1919. Beyrouth and Aleppo were crowded with refugee orphans and the first efforts were, of necessity, to found asylums for 10,000 waifs. These asylums are all maintained by the French commissioner except thirteen in Lebanon. In December, 1921, and March, 1922, about 30,000 refugees arrived from Cilicia. Their transportation and care were in charge of the French commissioner. The campaign against malaria, smallpox and venereal disease has been carried on vigorously, as also has the medical inspection of schools, and maintenance of the already established hospitals and dispensaries and organization of many new ones. The French medical school which has been at work for twenty years at Beyrouth proved of inestimable assistance, as its graduates were called on for their services. Of 140 physicians and pharmacists engaged in this public health service in the Near East, only about ten are native French. The article is signed by the inspector general of the medical department of the colonial troops.

Health Insurance in Spain.—In connection with the national conference on work, health and maternity insurance, held at Barcelona in November, there have been many discussions in the Spanish medical press as to the advantages and drawbacks attached to medical participation in the proceedings. At the recent conference of municipal physicians, one of the resolutions approved declared that compulsory sickness, injury and maternity insurance were detrimental to the medical profession. All in all, physicians have favored representation at the meeting in order to have their interests duly protected. The organizing committee granted the right to send delegates to the academies of medicine of Madrid and Barcelona, the superior board of health, the director general of public health, the president of the federation of medical societies and regional medical societies. The Physicians' Syndicate and other local societies of Madrid voted in favor of compulsory insurance provided physicians' rights are safeguarded. They argue that there are already in Madrid more than forty private insurance societies, with a membership of more than 120,000 families, paying four million pesetas (about $560,000) a year. These societies do not fulfil their purpose, since they are run for gain and in the end exploit both physicians and members.

Prizes Awarded by the Swedish Medical Association.—At the annual meeting of the Swedish Medical Association, the Jubilee prize for 1922 was awarded to Dr. J. Forssman for his works "Origin of the Anaphylactic Shock" and "A New Clinical Picture from Injection of Serum." They were published in the *Biochemische Zeitschrift*. The Alvarenga prize was not awarded. The Regnell prize was given to Prof. Ivar Broman for his work "The Evolution of Mammals." The Retzius gold medal for 1922 was presented to Prof. Charles Sherrington of Oxford for his research on the physiology of the nervous system. This medal is awarded alternately every four years for work on anatomy and physiology. The previous recipients have been A. von Koelliker, Carl Voit, G. Schwalbe, John Newport Langley, and O. Hertwig. The Retzius traveling scholarship in anatomy for 1922 was given to the prosector, Carl Hesser. A stipend from the Pasteur fund was given to Prof. A. Pettersson for his research on pneumococci in corneal ulcer, and to continue his attempts to transmit leukemia from man to monkeys. The Lennander lecture in 1922 was delivered by Prof. G. Ekehorn on "Tuberculosis of the Urinary Apparatus." The lecturer in 1923 will be Prof. B. Gadelius, whose subject is "Psychic Hygiene in Schoolchildren." A Gullstrand fund has been recently founded from the surplus after presenting Professor Gullstrand with a gold medal on the occasion of his sixtieth birthday. The *Förhandlingar* of the association states that there are now 1,456 members, including eleven foreign honorary and 145 foreign regular members, and eleven Swedish honorary members. The foreign members who died during 1922 were Erb, Cargø, O. Schaumann, Holsti, Kolster, Ranvier and Sivén. There are a large number of other endowments but in 1922 only 9,970 crowns were paid out in prizes.

Deaths in Other Countries

Dr. **C. W. Broers,** director of the central laboratory of the Netherlands public health service since its foundation at Utrecht in 1909.——Dr. **Baudet** of Paris succumbed to malignant scarlet fever contracted in his hospital service. The government sent the "epidemics gold medal" to his family.——Dr. **E. A. Fontana** of Empoli, Italy.——Dr. **P. Casciano,** professor of medical hydrology at Rome and deputy for four terms.——Dr. **E. Zuccaro** of Naples.——Dr. **Alexandrino Pedroso,** professor of microbiology at S. Paulo, Brazil.——Dr. **Pacifico Pereira,** professor at the University of Bahia.——Dr. **Pablo Galli** of Buenos Aires.——Dr. **A. Bing,** professor of otology at the University of Vienna, aged 78.——Dr. **E. Sidler-Huguenin,** professor of ophthalmology at the University of Zurich.——Dr. **O. Hösel,** psychiatric expert in the ministry of the interior for Saxony.

CORRECTIONS

Appointment to Norman, Okla., Institution.—In THE JOURNAL for December 23 appeared an announcement that Dr. J. C. Mahr had been appointed superintendent of the hospital at Norman, Okla. We are informed by Dr. Claude Thompson, secretary of the Oklahoma State Medical Society, that this is an error.

Infant Feeding and Infant Mortality.—In THE JOURNAL, December 30, p. 2251, in the abstract entitled "Infant Feeding and Infant Mortality" the last two lines should read: The ratio is much higher (6.3) in the group with earnings under $550 than in the group with earnings of $1,250 and over (4.1).

Government Services

Distinguished Service Medal Awarded Col. T. S. Wilson

Col. James S. Wilson, M. C., U. S. Army, has been awarded a distinguished service medal for "exceptionally meritorious and distinguished service as chief surgeon of the American Expeditionary Forces in Siberia." Colonel Wilson recently retired from active service after twenty-seven years in the Medical Corps. The presentation of the medal was made by Major Gen. J. H. McRae, Fifth Area Army Corps commander.

Hospital Evacuation Started

The U. S. Veterans' Bureau announced recently that evacuation of the Fort McHenry Hospital at Baltimore had been started. Patients now confined in the institution are being admitted to hospitals throughout the country to which they prefer to be sent.

House Favorable to Bursum Bill

The House of Representatives before adjournment for the Christmas holidays adopted the conference report on the Bursum bill, which would increase pensions of Civil and Mexican War veterans from $50 to $72 a month and those of widows of veterans from $30 to $50, with $6 additional for each dependent child. Nurses who served during either conflict would receive $50 monthly instead of the present $30 pension.

Pay Increased for Veterans' Attendants

President Harding signed this week the bill which had previously passed both houses of Congress increasing the pay of nurses and attendants of blinded ex-service men. The increases ranged from $20 to $50 a month.

School for Psychiatrists at St. Elizabeth's

Dr. W. A. White, superintendent of the Government Hospital for Insane at Washington, D. C., announced this week the establishment of a school at St. Elizabeth's early in January, for the instruction of physicians in the treatment of mental and nervous diseases. Dr. White stated that, at the time an appropriation of $35,000,000 was being considered for the construction of hospitals throughout the country for disabled veterans, he suggested to the U. S. Veterans' Bureau that, as half of the soldiers were tuberculous and the other half mental and nervous patients, something should be provided for the latter. He was authorized to organize an institution to train physicians, and, with his staff of forty-five men, has about completed all arrangements. Lecture courses numbering from two to eight will be given by prominent neuropsychiatrists.

Dickman Board Completes Task

The demotion of Army officers and separation from the service of 1,858 commissioned personnel ordered by Congress in effecting a reduction in the officer complement has been completed by the War Department. The elimination included 101 officers in the Medical Corps, sixty-four from the Dental Corps; twenty-three from the Veterinary Corps, and fifty-six from the Medical Administration Corps. In announcing completion of the reduction program, Secretary Weeks paid high tribute to the work of the Dickman board, to which the task of selecting officers for separation and demotion was delegated. The work was done, he declared, on a high plane without favor to any and strictly on a basis of merit. Surg. Gen. M. H. Ireland of the Medical Corps was a member of the board.

Annual Physical Examinations in January

The annual physical examination of commissioned officers and warrant officers of the U. S. Army will be conducted during the month of January, 1923, according to instructions issued by Surg. Gen. M. H. Ireland to the Medical Corps. Medical officers making the examinations have been ordered by the Surgeon General to exercise care and judgment in the defect or combination of defects of officers examined as

to whether they are incapacitated for field service; and, before arriving at a definite decision, they must carefully consider the age and rank of the officer concerned and the duties which he will be called on to perform while in active service. All immunization data of each officer in the Army will also be compiled by the commissioned personnel of the Medical Corps during the examinations, as well as descriptions of the reaction to all prophylactic vaccinations.

Encouraging Report on Narcotics

Col. L. G. Nutt of the narcotic division of the prohibition unit has reported that there has been a marked decrease in the number of drug addicts in the United States in recent years. While drug pedlers still constitute a national menace, he reported, their illicit traffic is more nearly under control today than it ever has been. Colonel Nutt asserted that reports circulated in Chicago to the effect that the number of drug addicts increased about "1,400 per cent." were without foundation.

General Ireland Recommends Changes

The Surgeon General of the Army, Major Gen. M. H. Ireland, has recommended to the War Department that the following legislation be presented to Congress for enactment as necessary to the Medical Corps of the Army:

An Act to Modify the Provisions of the Army Elimination Law: That any officer, irrespective of his age when appointed, who has been or is to be eliminated from the active list, either by discharge or retirement, in accordance with the acts aforesaid, and who has had prior service as an enlisted man or prior service in the military establishment under other governmental appointment which under existing law is now counted for purposes of retirement, pay or promotion, shall be credited with all such service.

An Act Granting Retirement to Members of the Army Nurse Corps: That members of the Army Nurse Corps who shall have had active service of twenty years, including for the purpose of computation former service as contract nurse prior to February 2, 1901, and all active service in the Navy nurse corps, shall on application therefor to the Secretary of War, be placed on a retired list, and shall thereafter receive 75 per cent. of the pay they were drawing at the time of such retirement.

An Act Designated to Extend the Period Under Which Decorations May Be Accepted from Foreign Governments: That the eleventh paragraph under the caption "Medals of Honor, Distinguished Service Crosses, and Distinguished Service Medals," Army Appropriation Act, approved July 9, 1918, to the extent that it establishes limitations of time as a condition of acceptance, by any and all members of the military forces of the United States who served in the World War, of decorations or medals from foreign governments, is amended so as to extend such limitation for a period of one year from and after the aproval of this act.

New Army Medical School Started

The cornerstone of the Army Medical School building in Washington, D. C., has been laid. Brig. Gen. Walter D. McCaw, commandant of the school and also a member of the staff of the Surgeon General, was present at the ceremonies held recently, as were officers of the Army and patients from the Walter Reed General Hospital. In the receptacle of the stone were placed extracts from the annual reports of the Surgeon General of the Army for 1862, and from 1893 to 1921: a photograph of the architect's drawing of the building; a photograph of Brig. Gen. George M. Sternberg, organizer and founder of the Army Medical School, and photographs of Generals Ireland and McCaw, and Colonel Glennan.

Annual Conference of District Sanitary Engineers

The annual conference of district sanitary engineers of the U. S. Public Health Service was held in Washington, D. C., Jan. 2-6, 1923. Among the invited guests were Dr. J. A. Omyot, deputy minister, department of health of Canada; Dr. W. S. McCullough, chief officer of health, provisional board of health, Ontario, and F. A. Dallyn, director, sanitary engineering division, provincial board of health, Ontario.

Test Suit Launched Against Sheppard-Towner Act

A suit against the enforcement of the Sheppard-Towner maternity act was launched in the District of Columbia Supreme Court, this week, when Mrs. Harriett A. Frothingham of Boston became the plaintiff and named Andrew Mellon, Secretary of the Treasury; Grace Abbott, chief of the Children's Bureau of the Department of Labor; Hugh S. Cumming, Surgeon General of the U. S. Public Health Service, and John J. Tigert, United States commissioner of education, in an injunction to prevent their carrying out the provisions of the act. According to the act, Congress is to appropriate $430,000 annually for a period of five years to carry on the work. Mrs. Frothingham, who lives at 113 Commonwealth Avenue, Boston, declares in her petition that this act violates the provisions of the fifth amendment to the Constitution. She declares the $430,000 provided for annually by the appropriation is paid into the United States Treasury by the taxpayers of this country and that taxation of this character is confiscatory in nature. In this, the complaint says, it violates that amendment to the Constitution. Mrs. Frothingham further charges that the act invades the sovereign rights of the states.

The Navy Medical Corps

There are at present several vacancies in the medical corps of the Navy. Successful candidates, after being commissioned, will be ordered to one of the larger naval hospitals pending the beginning of the next session of the Naval Medical School, at which time they will be ordered to duty in attendance on a course of instruction. On completion of the course of instruction at the Naval Medical School, Washington, D. C., they will again be ordered to a naval hospital for approximately one year, at the end of which they will be transferred to sea duty.

Lieut. Commanders F. E. Sellers and E. P. Huff will shortly be ordered to the Naval Hospital, Boston, for the purpose of taking a special course in internal medicine at the Massachusetts General Hospital. Lieut. L. H. Williams has been assigned to duty in attendance on a course of instruction at the Mayo Foundation, Rochester, Minn.

Fleets Change Hospital Ships

Announcement was made by the Surgeon-General of the Navy that while the fleet is combined at Panama in February for maneuvers, there will be an exchange of hospital ships. the *Relief*, which has been with the Atlantic fleet will go to the Pacific, and the *Mercy*, which has been with the Pacific fleet, will come to the Atlantic. The commander-in-chief of the fleet has been given authority to transfer officers and men between the two hospital vessels in case some desire to remain in the localities where they have been serving. Changes in the stations of naval medical officers follow: Commander J. D. Manchester has been transferred from duty at the naval hospital, Mare Island, Calif., to the Naval Training Station, San Francisco, and Commander C. N. Fiske from the training station to Mare Island hospital for duty. Commander W. A. Angwin has been ordered transferred from the *Relief* to the battleship *Nevada* for duty, being succeeded on the hospital ship by Lieut. Commander R. M. McDowell from the naval hospital at San Diego, Calif.

The Public Health Service

The advisory committee to the Surgeon-General on the education of sanitarians and the future of public health in the United States met in the office of the Surgeon-General, Washington, D. C., January 3. The object of this meeting was to confer with the Surgeon-General and officers of his staff for the purpose of definitely shaping policies of the Public Health Service. Many of the recommendations submitted by a conference on this subject, which was held under the auspices of the Public Health Service in March, 1922, are already being put into effect. The annual conference of the public health workers in Virginia was held at Richmond, December 27 and 28. The personnel of this conference consisted of state and local health officials, including physicians, nurses, inspectors and other sanitarians. Governor Trinkle made an address, as did Surg.-Gen. H. S. Cumming, Dr. J. A. Hayne, state health officer of South Carolina, and Asst. Surg.-Gen. W. F. Draper. In 1908, Virginia had no full-time county health work in operation. In 1912, the first full-time health officer went on duty. In 1917, there were five counties having full-time health officers, and in 1922 the number of counties employing full-time health workers had reached thirty-two. This statement, perhaps more than any other, indicates the progress which Virginia is making in developing her health organization. There will be a public health exhibit in the city of New York, January 22-27, at the Grand Central Palace, under the auspices of the city health department, in cooperation with the state department of health. Senator-elect Royal S. Copeland is chairman of the exhibit committee, and arrangement is being made for an intensive instructive exhibit.

Foreign Letters

PARIS

(From Our Regular Correspondent)

Dec. 8, 1922.

Use of Preservatives in Foodstuffs

The food preserving industry has not as yet made any extensive researches in the domain of asepsis, which is difficult of accomplishment on a large scale, but has confined its attention chiefly to easier methods, with a view to utilizing chemical substances, more or less bactericidal, in order to produce a medium unfavorable to the development of bacteria. Such bactericidal preservatives, however, have serious disadvantages. From the practical standpoint, producers will always have a tendency to employ as preservatives strong chemical substances that are effectual when used in very small amounts, and they overlook the fact that the results desired cannot be secured without grave danger to the consumer. In another sense, the preservative or disinfectant seems to authorize, or at least to excuse, all forms of negligence. In view of the presence of the preservative that is supposed to conserve the foodstuff in an undeteriorated state, the industry seems to think that there is no need of using care to have the food to be preserved in as fresh a condition as possible, nor of taking any special precautions during the course of the preserving process; hence, the numerous cases of intoxication of more or less obscure origin but doubtless due to preserved foodstuffs, that have been observed of late. All the recent congresses on public health have passed resolutions disavowing the use of preservatives or disinfectants in foodstuffs, but this fact does not prevent certain states from authorizing, under the cover of commercial freedom, the use of various disinfectants or preservatives, on the sole condition that the label on the original package shall state the nature and the amount of the preservative used.

Another important matter to which Dr. F. Bordas has recently called attention is the fact that, in the countries where there is an abundance of everything, considerable impetus has been given to the food preserving industry by the increased demand for such produce in the regions that suffered profoundly during the World War. In view of this state of affairs, it is incumbent on us to consider the necessity of establishing safeguards with reference to the enormous stocks of merchandise that have been accumulating for months in the warehouses of the world. These safeguards are indispensable from the standpoint of public health and the point of view of securing honest goods for honest money. Foodstuffs preserved by heat sterilization or by freezing or refrigeration may have been manufactured a long time previously without the buyer or the consumer being in a position to know the facts in the case. It is important, therefore, as has already been demanded with reference to certain kinds of canned fish, that the date of manufacture be plainly stamped on the container, no matter what methed of preserving was employed. In the case of foodstuffs enclosed in tin containers, the problem presents no particular difficulties; but the same information should be furnished the buyer when he purchases products preserved by freezing. Frozen meats and cold-storage butter might have the date of origin stamped on the package; also certain marks indicating the cold storage plant where the products have been stored.

The Disinfection of Glassware in Public Establishments

I mentioned in a previous letter the researches of Drs. L. H. Dejust, Wibaux and L. Dardel on the presence of pathogenic bacteria on table utensils, and the various methods of disinfecting them (THE JOURNAL, July 22, 1922, p. 314). Dr. Dejust has of late carried on his researches in collaboration with Mlle. G. Bigourdan. He was able to show that the drying of dishes with a towel, while more or less efficacious at first, becomes rapidly less so, since, as a rule, the same towel is used to dry a large number of dishes, before it is discarded. Particularly, in many restaurants and cafés when a towel has become too damp to be utilized further, it is merely hung up to dry and is used again, a few hours later, when it is dry. It is discarded only when it bears all too apparent signs of being soiled. There results a sort of methodical enrichment of bacteria, which, after twenty or more operations, renders the towel capable of contaminating sterile objects with which it comes in contact.

As for the use of concentrated solutions of strong acids (a 10 per cent. solution of hydrochloric acid, for example), which are said to kill instantly all the bacteria, Dejust and Mlle. Bigourdan are not inclined to recommend them. The use of such solutions presupposes a material that acids will not attack; the majority of the drinking vessels, however, are of metal. Furthermore, if acids are used, rubber gloves must be worn. The use of such solutions would necessitate the organization of a special dish-washing service. The proprietors of cafés and restaurants will never, of their own accord, go to this expense. However, during an epidemic of a disease that is transmissible by buccal secretions, the disinfection of the glassware of public establishments might be reasonably demanded. Under such circumstances, the inconveniences associated with the use of solutions of strong acids would be borne without complaint.

A different attitude toward the question should be taken in establishments where the risks of contamination are particularly great (sanatoriums, hospitals). For such establishments the solution of the problem is very simple. All that need be done is to replace the ordinary glassware with receptacles sterilizable by heat, so that they can be washed and disinfected in the dish-washing machines, at the same time as the rest of the tableware. This is the solution of the problem that was reached some time ago in the Hôpital Pasteur, where the patients are provided with metal cups. Certain glasses of special composition will not break when immersed in boiling water, even though they are immediately transferred to cold water; this type of glassware commonly used in laboratories is unfortunately too easily broken and also too high priced to be used habitually in the form of drinking glasses. However, the manufacturers might perhaps take into account this eventual application of their product. In the meantime, the use of cups, goblets and bowls (made of faience or porcelain) that can be sterilized by heat is to be recommended. Those in charge of hospital management ought to carry out this precaution—at least in the services where patients suffering from affections transmissible by the buccal secretions are being treated.

Society of Friends of the Faculté de Médecine of Paris

The Societé des amis de la Faculté de médecine de Paris has for its *raison d'être* the improvement in the medical school of the methods of instruction, the facilities for work available to the students, and the laboratories of scientific research; the expansion of French medicine in foreign countries, and the advancement of medical science in general. It consists at present of 182 members. In 1920, the society published a large edition of a prospectus setting forth the advantages and chief features of the Faculté de médecine of Paris, and sent copies to all the medical centers of the world. This year it proposes to put up in the halls of the university a commemorative tablet in honor of the students and doctors of the Faculté de médecine who died for France. Furthermore, the society plans to organize at the Faculté de

médecine, during the winter semester, a series of twelve lectures to be delivered by professors and instructors of the university. These lectures are intended to afford the professors an opportunity of presenting a summary of their own individual researches, thus giving an idea of their particular field of scientific activity.

Victims of Roentgen Rays

Dr. Vaillant, roentgenologist in the Lariboisière Hospital, whose left arm had already been amputated following an injury caused by roentgen rays, has just undergone an amputation of the right forearm for the same reason. On this occasion he received expressions of sympathy from the municipal council, the prefect of the department of Seine, the president of the republic and the minister of public health. The commission charged with the administration of the Carnegie Hero Fund met recently under the chairmanship of M. Emile Loubet, former president of the republic, at which time it considered the activities of several roentgenologists who have become the victims of their devotion to science; more especially Drs. Leray, Vaillant and Bergonié. It awarded a gold medal to Bergonié.

LONDON

(From Our Regular Correspondent)

Dec. 11, 1922.

Causes and Prevention of Blindness

In 1920, the minister of health appointed a committee to investigate and report on the causes of blindness, including defective vision sufficient to impair economic efficiency, and to suggest measures of prevention. The committee, which included ophthalmic surgeons, a neurologist and other experts, has now presented a report. In 1921, there were, in England and Wales, 34,894 persons too nearly blind to perform work for which eyesight is essential. The ages at which persons become blind are 21 per cent. in the first year of life, and thereafter about 10 per cent. for each decade up to 70 years. In the order of importance, the causes of blindness were: ophthalmia neonatorum; syphilis; congenital malformations; surface inflammations in childhood; trachoma; myopia; glaucoma; industrial disease and accident; accidents in civil life; war conditions, and sympathetic ophthalmia. For the prevention of ophthalmia neonatorum, the committee recommends that arrangements be made for pupil midwives to visit ophthalmic hospitals for the purpose of gaining experience as to the disease. For prophylaxis, Credé's method (with not stronger than 1 per cent. of silver nitrate) in skilled hands is recommended, but not as a routine for midwives, under whom its use would lead to the risk of neglecting the more important scrupulous cleansing. The disease should be diagnosed and notified at the earliest possible moment, that nursing facilities may be supplied or the patient admitted to a hospital. If physicians had facilities provided for consultation with an ophthalmic surgeon and for bacteriologic investigation, there would be less delay in treatment. For the latter, the midwife's care is inadequate: irrigation by a trained nurse must be performed at frequent intervals, day and night.

The committee found evidence that some physicians fail to recognize the disease early, because of limited training in ophthalmology. It therefore recommends that, to determine his qualification, every student should be examined in ophthalmology. Syphilis is given as the cause of from 10 to 15 per cent. of the cases of blindness. Trachoma, once so terrible in this country and still so in others, is now rare. The most important step is to prevent its importation by immigrants. As the determining cause of primary glaucoma is unknown, the disease cannot be prevented; but blindness can, by early treatment. The point is emphasized that, in the early stages, glaucoma may appear to be relieved by frequent changes of glasses; hence, the grave risk of treatment by opticians. The principal industrial diseases that affect eyesight are various forms of poisoning, cataract in glass and iron workers, pitch ulceration, and miners' nystagmus. Lead poisoning has almost ceased to be a factor, in consequence of exhaust ventilation, the use of leadless or low solubility glazes and labor-saving devices, and periodic medical examination of workers. Rare causes are trinitrotoluene and carbon bisulphid poisoning. No authentic case of poisoning by wood alcohol is known in this country; which appears to be due to the fact that methyl alcohol is not produced in a refined and drinkable form.

Advertising by Physicians

At the General Medical Council, Dr. R. A. Bolan brought forward an important motion to consider oblique or indirect advertising by physicians in the lay press. His object was to elicit a pronouncement on certain developments of journalistic advertising that had arisen in the last few years. He considered that, if these were not checked, there would be danger that some of the cherished traditions of the profession would be undermined. It was rare now that blatant advertisements, such as handbills heralding the attainments of a physician, were encountered. But more subtle and insidious methods had come into being. Brief notices of physicians were inserted in a column of the newspaper, sometimes called the "Court Circular" column, at the foot of which might be found the statement that advertisements were inserted there at a special rate. The notices were sometimes obituary paragraphs concerning persons related to a man who was referred to as "that well-known physician." Again, in notices of engagements or marriages, it should be sufficient to indicate the persons so that they would be known to their friends without seizing the opportunity to announce the qualifications and professional address of the bridegroom or of the father of one of the parties.

Physicians, wittingly or unwittingly, were advertised in the lay press by the publication of their opinions on matters of the moment. Sometimes, they contributed to the correspondence column. Some took the precaution of appending only their names; but, when the professional qualifications and address followed, one could only conclude that advertising was intended. Another method was to announce that a prominent person, being in ill health, had consulted such and such an "eminent physician," or had been operated on by such and such a surgeon, although the names were of no public interest. There was a large class in which advertisement took the form of press interviews on subjects which ranged from experiences on liners to fighting epidemics or performing operations by wireless, and the expression of opinions as to the spread of cancer or its treatment. Portraits were sometimes published of men who were described as experts on the particular subject. A more serious matter was a series of articles in which the writer used some such phrase as "my vast and varied experience." If the object of a physician was to instruct the public in some matter that was quite proper, it would be sufficient for the editor to say that the writer had the requisite position, without mentioning his name. The following motion was adopted by the council: "That it be remitted to the executive committee in consultation with the legal advisers to consider and report on the expediency of amending the council's warning notice with respect to canvassing and advertising so as to make it more clear and comprehensive."

Sir Norman Moore

Sir Norman Moore, late president of the Royal College of Physicians and physician to St. Bartholomew's Hospital, has died, at an advanced age. Born in Lancashire in 1847, the

son of an Irish barrister, he was educated at Owens College, Manchester, and at Cambridge. From the beginning of his medical studies he showed a literary bent. He finished his course at St. Bartholomew's Hospital, where he passed through the various posts up to that of physician, which he held from 1902 to 1911. Though painstaking and an excellent teacher and writer, he made his mark as a historian rather than as a physician. He was devoted to the Royal College of Physicians, where he filled most of the offices of importance, becoming president in 1918. Widely read in all branches of literature, he was especially attracted to history and biography. For the "Dictionary of National Biography" he wrote no fewer than 459 biographies, chiefly of medical men. These he composed with great accuracy of detail. Before writing the biography of a person, he read everything that the person had written. Long before the history of medicine was thought worthy of attention, he urged the importance of its study, and through his influence the Fitzpatrick lectures on the history of medicine were established at the Royal College of Physicians. He was president of the Section of the History of Medicine at the International Congress of Medicine in 1913, and president of honor at the congress this year. His opus magnum was a history of St. Bartholomew's Hospital, which appeared in 1919. Its preparation occupied him for more than thirty years. With great wealth of detail and high literary skill, he traced the history of the hospital from its foundation in Norman times to the present day.

Insanity and Crime

The difficulties that are constantly arising as to criminal responsibility have been discussed in previous letters. A criminal responsibility committee has been appointed by the Medico-Psychological Association, to determine the question of criminal responsibility of the criminal insane. The committee consists of twenty-eight members, and includes leading alienists. It hopes to find some kind of formula which will be accepted by judges and juries in cases in which the plea of insanity is made. The committee is expected to take several months to consider its findings. It may be remembered that this question was brought into prominence by the case of Ronald True, who murdered a courtezan and decamped with her jewelry. The jury refused to accept the plea of insanity, and convicted him of murder, notwithstanding undisputed medical evidence that he was insane. But before executing him, the home secretary, according to law, had to submit the question of his sanity to experts. They decided that he was insane and he escaped the gallows, though guilty of a brutal and cold-blooded murder.

Birth Control Attacked

Birth control has extended in this country, and a society has been formed. A journal is published and propaganda takes the form of public meetings also. Dr. Louise McIlroy, professor of obstetrics and gynecology at the London School of Medicine for Women, delivered the inaugural address of the session of the York Medical Society on the subject. She complained that psychanalysis had attracted charlatans, who used methods of the muck-raker as to sex and frequently suggested sex to patients in cases in which it was not in question at all. History showed that the downfall of Greece and Rome was due to the practice of race suicide, and if the practice obtained headway here, it would mean the downfall of our empire. Birth control methods would make venereal disease more prevalent, increase prostitution, and turn women in the home more or less into the line of prostitution, making them slaves of their husbands. The methods would not be confined to the married but would be an inducement to immorality among the unmarried. She had never met an obstetrician or gynecologist who advocated them, for they knew how harmful were the results. Their supporters in the profession were among physicians and health officers who favored them for economic reasons. But the remedy was to teach the young of the community what life and marriage really meant, and it must be insisted that sex union was not a physiologic necessity in the male—the most degrading doctrine women had ever accepted. If they got that idea out of their heads, they would have done much for the moral education of the race.

BERLIN

(From Our Regular Correspondent)

Dec. 9, 1922.

Significance of the Abderhalden Reaction in the Field of Psychiatry and Nervous Diseases

It was formerly thought possible to distinguish defect psychoses from other psychoses by means of the dialyzation method; dementia praecox, especially, was regarded as being diagnosticable in this manner, but more recent investigations tend to disprove this assumption. Kastan refuses to accept the theory of a special dysglandular psychosis. The notion of dysfunction is not clear clinically. The Abderhalden reaction does not prove that the organ which gives evidence of perverted metabolism is the one in which the pathologic changes first occurred; for the former may have been damaged by psychic influences. The results Kastan has reached through his own researches may be summed up thus: Eleven per cent. of his cases of manic-depressive insanity were found to be due to psychic enfeeblement and deterioration of the gonads; in eighty-seven cases of dementia praecox he found twenty-seven instances of deterioration of the thyroid gland, sixty instances of deterioration of the gonads and thirty examples of cerebral deterioration; in twelve cases he found deterioration of the brain, the thyroid and the gonads, and in nine cases no positive results were secured. He found cerebral deterioration in 33 per cent. of the epileptics examined, but noted no wealth of peculiar (*eigen*) dialyzable substances. In paresis he observed cerebral deterioration in 40 per cent. of the cases. Following the Steinach operation in dementia praecox there were no changes in the Abderhalden reaction. However, the reaction has had a theoretical value. It has led to viewing from a common angle all processes in the body associated with psychoses.

Topography of the Cerebral Cortex

At a meeting of the Gesellschaft deutcher Nervenärzte, Goldstein of the Frankfort Neurologic Clinic, Pfeifer of the Halle Psychiatric Institute, and Förster of the Breslau Neurologic Clinic read papers on the topography of the cerebral cortex. According to Goldstein, the processes that take place in the sensomotor area are never distinctly separate from the processes of the central apparatus. In every cerebral performance, the functions of a large, uniform apparatus which comprises the whole cerebral cortex are brought into play. To the various divisions of the cerebral cortex are delegated only certain special functions, which are, however, dependent on the whole. What are regarded as local symptoms is only the change that the function of a local focus produces in the whole performance. If one portion of the brain is injured, another portion of the same or the other hemisphere takes over the impaired function. The uninjured portion of an apparatus will endeavor, as far as possible, to take over the complete function of the intact apparatus. On the basis of psychologic tests carried out on 300 patients who had suffered brain injuries during the World War, Pfeifer showed that the reduction of the capacity for bodily and mental performance depends, qualitatively and especially quantitatively, to a great extent on the localization of the brain injury. Persons who have suffered

occipital injuries were found, on being tested for light sense, space sense and perception of depth and distance, to be twice as much affected as those who had suffered injuries of other portions of the brain. In injuries of the temple, a special diminution of function in the realm of acoustics was noted. In frontal injuries, the greatest damage to the higher intellectual functions was observed, especially as regards the processes of thought, logical thinking, power of judgment, forming of conclusions and power of concentration. On the other hand, those in whom the central convolutions were damaged were the least affected as far as intellectual qualities are concerned. In doing sums, those who had suffered occipital or temple injuries worked the slowest and the least accurately. In tests of the power of attention, those with occipital injuries showed the worst results. In tests of the emotions during work done amid disturbances, those with frontal injuries showed the greatest cerebral impairment, while those with occipital injuries showed the least. Disturbances of the emotions in general are most frequent and the strongest in those with frontal injuries. Injuries of the left hemisphere in right-handed persons show greater damage to the memory and intellect than injuries of the right hemisphere—especially in those who have suffered frontal injuries.

Personal

Dr. Iwan Bloch, the dermatologist and sexologist, has died at the age of 50. Besides various contributions to dermatology and the etiology of sexual diseases, Bloch has written a number of works on the history of medicine which are valuable for the history of civilization. Worthy of special mention is his "History of Prostitution." Under the pseudonym Eugen Dühren, he published a monograph on the Marquis de Sade, which is an instructive contribution to the history of sexual perversions and to the history of morals in the eighteenth century and the period of the revolution in France. He took an active part in the founding of the Berlin Aerztliche Gesellschaft für Sexualwissenschaft. The London society for research in sexual science made him an honorary member, two years ago, which was the first honor of this nature accorded since the war to a German scientist. He was also a member of the Gesellschaft für Bibliophilen, and secured the publication of an unprinted letter of Kant and the posthumous works of Heinrich Lautensack. Several months ago Dr. Bloch contracted a severe influenza infection, which was the beginning of a long illness, during the course of which he had to undergo the amputation of first one leg and then the other.

Marriages

AUBIN TILDEN KING, Captain, M. C., U. S. Army, Carlisle Barracks, Pa., to Miss Louise Antoinette Smith of Richmond Hill, N. Y., December 16.

WILLIAM LANDON BRENT, Colonial Beach, Va., to Miss Lucille Lewis of Birmingham, Ala., in November.

GUSTAVE B. DUDLEY, JR., Danville, Va., to Miss Priscilla Humbert of Lowmoor, Va., December 6.

WALTER L. STRANBERG to Miss Margarette A. Timmons, both of Milwaukee, December 17.

JOHN E. EVANS, Wilmington, N. C., to Miss Sara Shepherd of Chatham, Va., November 28.

CARL H. ILL, to Miss Jeannette R. S. Seymour, both of Newark, N. J., November 27.

JAMES P. HENNESSY, New York, to Miss Helen M. Hendrix of Baltimore, December 23.

CHARLES F. RINKER to Mrs. Louisa D. Hall, both of Upperville, Va., November 15.

JAMES HERBERT MITCHELL to Miss Marion Strobel, both of Chicago, December 6.

Deaths

Marshall Calkins, Springfield, Mass.; Dartmouth Medical School, Hanover, N. H., 1868; member of the Massachusetts Medical Society; professor of physiologic and microscopic anatomy at the University of Vermont College of Medicine, Burlington, 1873-1897; formerly attending physician to the Springfield City Hospital and the Springfield Home for Friendless Women and Children; member of the board of pension examining surgeons; corresponding member of the Boston Gynecological Society and member of the American Association for the Advancement of Science; died, November 26, aged 94, from senility.

Robert Arnot Sempill ⊕ Chicago; College of Physicians and Surgeons, Chicago (University of Illinois), 1891; professor of dermatology, Loyola University School of Medicine, Chicago, and professor of dermatology and syphilology at the Chicago Polyclinic; served during the World War in the M. C., U. S. Army, with the rank of captain; died, December 19, aged 58, from acute dilatation of the heart.

Daniel Olin Leech ⊕ Washington, D. C.; Medical Department of Columbia University, 1887; member of the American Therapeutic Society; formerly connected with the Florence Crittenton Hope and Help Mission, Eastern Dispensary and Casualty Hospital, the Sibley Memorial Hospital and the Garfield Memorial Hospital, where he died, December 14, aged 60, following an operation.

Henry Hodgen Kirby ⊕ Little Rock, Ark.; Washington University Medical School, St. Louis, 1906; clinical professor of gynecology at the University of Arkansas Medical Department, Little Rock; surgeon to St. Luke's Hospital; member of the Southern Medical Association; died suddenly while on a hunting trip, December 9, aged 39.

John Martin Maloney, Springfield, Mass.; Georgetown University School of Medicine, Washington, D. C., 1907; member of the Massachusetts Medical Society; served in the M. C., U. S. Army, during the World War; on the staff of the Mercy Hospital; aged 37; died, December 16, from pneumonia.

Archibald Cheatham, Durham, N. C.; University of Maryland School of Medicine, Baltimore, 1888; member of the Medical Society of the State of North Carolina; at one time superintendent of the Durham Board of Health; aged 58; died, December 10, from cerebral hemorrhage.

Henry Richings ⊕ Rockford, Ill.; Medical Department of the University of the City of New York, 1864; Civil War veteran; formerly member of the state board of health; at one time on the staff of the Rockford Hospital; aged 82; died, December 12, from heart disease.

John Benjamin Latham, Abilene, Texas; Memphis Hospital Medical College, Memphis, 1893; member of the State Medical Association of Texas; served in the M. C., U. S. Army, during the World War; on the staff of the State Epileptic Colony; aged 50; died, November 26.

Lee Arbor Scace, Centralia, Wash.; University of Minnesota Medical School, Minneapolis, 1907; member of the Washington State Medical Association; superintendent of the Scace Hospital; aged 42; died suddenly, November 21, at Hot Lake, Ore., from heart disease.

Albert J. Scholl ⊕ Los Angeles; Rush Medical College, Chicago, 1880; Medical Department University of California, San Francisco, 1890; formerly on the staff of the Los Angeles Orphan Home; aged 63; died, December 9, at the Pacific Hospital, following an operation.

Daniel Hutson Arthur, State Farm, Mass.; New York Homeopathic Medical College and Hospital, New York, 1887; member of the American Psychiatric Association; on the staff of the Bridgewater State Farm, Gowanda, N. Y.; aged 61; died, December 19.

Homer E. Griswold, Erie, Pa.; Cleveland Homeopathic Medical College, Cleveland, 1903; member of the Medical Society of the State of Pennsylvania; on the staff of the Hamot Hospital; aged 43; was found dead in bed, December 14, from heart disease.

Albert Harlow Pratt, Oakland, Calif.; Cooper Medical College, San Francisco, 1872; Bellevue Hospital Medical College, New York, 1878; formerly member of the board of education; aged 78; died, December 12, at the Merritt Hospital, from senility.

⊕ Indicates "Fellow" of the American Medical Association.

Walter Everett Whitney, Bangor, Me.; Jefferson Medical College, Philadelphia, 1893; member of the Maine Medical Association; member of the American Academy of Ophthalmology and Oto-Laryngology; aged 57; died, November 28, from uremia.

Frederick Eugene Leonard, Oberlin, Ohio; College of Physicians and Surgeons (Columbia University), New York, 1892; professor of physiologic and physical training at Oberlin College; aged 56; died, December 10, following a long illness.

Walter Marshall Dake, Denver; Hahnemann Medical College of Philadelphia, 1877; formerly professor of diseases of lungs at Denver Homeopathic College; aged 67; died, December 14, at La Jolla, Calif., from heart disease.

Jesse Raymond Burdick ✠ Tulsa, Okla.; Hahnemann Medical College and Hospital of Chicago, 1900; member of the Central States Pediatric Society; aged 44; died suddenly, December 8, from cerebral hemorrhage.

Eugene Aloysius Moore ✠ Philadelphia; Jefferson Medical College, Philadelphia, 1908; served in the M. C., U. S. Army, during the World War; aged 39; died, November 27, at the Anderson Hospital, from tuberculosis.

Patrick Clabon Nunn, Davisboro, Ga.; University of Georgia Medical Department, Augusta, Ga., 1886; member of the Medical Association of Georgia; aged 60; died, December 14, from acute indigestion.

Melville Skidmore ✠ East Moriches, N. Y.; Bellevue Hospital Medical College, New York, 1879; aged 64; died, December 19, at Deal, N. J., from hemorrhages of both wrists, presumably self-induced.

Philip Edward Arcularius, East Orange, N. J.; Medical Department of Columbia College, New York, 1868; formerly lecturer on dermatology at his alma mater; died, December 5, from bronchopneumonia.

Columbus Drew ✠ Jacksonville, Fla.; Washington University School of Medicine, Baltimore, 1869; Medical Department of the University of the City of New York, 1879; aged 76; died, December 13.

Charles Everett Hall, Freehold, N. J.; Medical Department of Columbia College, New York, 1863; Civil War veteran; formerly president of the Freehold Banking Company; aged 85; died, December 5.

John Freeman Stanbery, Newport, Tenn.; Tennessee Medical College, Knoxville, Tenn., 1896; member of the Tennessee State Medical Association; aged 49; died, November 29, from cerebral hemorrhage.

Albert A. Campbell ✠ Ogema, Minn.; University of Minnesota College of Medicine and Surgery, Minneapolis, 1909; also a druggist; aged 54; died, December 18, from pleurisy and pneumonia.

Henry L. Moffatt, Arpin, Wis.; Rush Medical College, Chicago, 1890; member of the State Medical Society of Wisconsin; aged 70; died, November 24, at Marshfield, from heart disease.

Jinkens L. Schley ✠ Homer, La.; University of Tennessee College of Medicine, Memphis, 1909; aged 38; died, December 14, at a sanatorium in Shreveport, from organic disease of the heart.

George S. Turner, Krebs, Okla.; Missouri Medical College, St. Louis, 1895; member of the Oklahoma State Medical Association; aged 52; died in November, from cerebral hemorrhage.

William Viney Clark ✠ Springfield, Ill.; St. Louis College of Physicians and Surgeons, St. Louis, 1908; aged 51; died, December 19, from a fracture of the skull when he was struck by a train.

Charles Busby Conaway, Torrington, Wyo.; Drake University College of Medicine, Des Moines, Iowa, 1907; aged 39; died, November 15, at Colorado Springs, Colo., from tuberculosis.

Benton Brengleman Dunn, Perry, Ill.; Rush Medical College, Chicago, 1891; served in the M. C., U. S. Army, during the World War; aged 54; died in December, from appendicitis.

Albert L. Converse, Springfield, Ill.; Chicago Medical College, 1864; for two terms member of the state legislature; chairman of the board of supervisors; aged 80; died, December 7.

Thomas Pack Vann, Eva, Ala.; Chattanooga Medical College, Chattanooga, Tenn., 1905; aged 48; was killed, December 8, when the car in which he was driving was wrecked.

Samuel Renwick Wills McCune ✠ New Castle, Pa.; Jefferson Medical College, Philadelphia, 1906; served in the M. C., U. S. Army, during the World War; aged 47; died, December 9.

Joseph Henry Hull, Washington, Iowa; Bellevue Hospital Medical College, New York, 1875; member of the Iowa State Medical Society; aged 72; died, December 17, from paralysis.

Leon Vasco Parker, Minot, N. D.; Rush Medical College, Chicago, 1920; member of the North Dakota State Medical Association; aged 39; died in December, from diphtheria.

Rufus F. Blount, Wabash, Ind.; Chicago Medical College, 1865; Civil War veteran; aged 91; died, December 15, at the home of his daughter in North Manchester, from senility.

John Barclay Laidley, Carmichaels, Pa.; Western Reserve University School of Medicine, Cleveland, 1856; Civil War veteran; aged 92; died, December 15, from pneumonia.

Emmett E. Gray, Quincy, Ind.; American Health College, Cincinnati, 1893; aged 65; died, November 19, at St. Mary's Hospital, Roswell, N. M., from bronchopneumonia.

D. W. Cowan, Sandstone, Minn.; University of Manitoba Faculty of Medicine, Winnipeg, Man., Canada, 1888; formerly state senator for Minnesota; died recently.

Joseph B. Du Rant, Lake City, S. C.; University of the South Medical Department, Sewanee, Tenn., 1900; aged 46; died, December 8, from influenza and pneumonia.

J. Whitney Barstow, Flushing, N. Y.; Dartmouth Medical School, Hanover, N. H., 1852; for forty years in charge of the Sanford Hall; aged 96; died, December 16.

Massie L. McCue, Greenwood, Va.; University of Virginia Department of Medicine, Charlottesville, Va., 1873; aged 74; died, November 15, from cerebral hemorrhage.

William Tonkin, Reading, Pa.; Hahnemann Medical College and Hospital of Philadelphia, 1886; aged 66; died, December 9, from cerebral hemorrhage.

Henry Marcellus Smith, Lee, Mass.; University of Vermont College of Medicine, Burlington, Vt., 1885; formerly city physician; aged 70; died recently.

John Karagiozian, Louisville, Ky.; Louisville Medical College, 1907; formerly a medical missionary in Armenia; died, December 6, aged 62.

William Philander Walker, Mason City, Ill.; Rush Medical College, Chicago, 1879; aged 66; died, December 11, from cerebral hemorrhage.

James J. McNulty, Philadelphia; Medico-Chirurgical College of Philadelphia, 1903; aged 43; died, December 15, from cerebral hemorrhage.

Jesse Beale Gallaspy, Newton, Miss.; University of Nashville Medical Department, 1907; aged 40; died, December 14, from heart disease.

Leroy A. Ellis ✠ Van Wert, Ohio; Cleveland University of Medicine and Surgery, 1896; aged 58; died in December, from heart disease.

Matthew Hill Grimmet, Greenvale, Tenn.; Vanderbilt University Medical Department, Nashville, Tenn., 1878; aged 74; died, December 12.

Felix R. Collard, Wheelock, Texas; Medical College of Louisiana, New Orleans, 1869; Civil War veteran; aged 78; died, December 13.

David W. Farnsworth, Cherokee, Iowa; State University of Iowa College of Medicine, Iowa City, 1885; aged 71; died, December 16.

Charles O. Jenison, Greenville, Mich.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1877; aged 83; died, December 8.

Curtis Allen Lambert, Chicago; Miami Medical College, Cincinnati, 1871; aged 76; died, December 28, from acute indigestion.

William Dynes Starkey, Zionsville, Ind.; Indiana Medical College, Indianapolis, 1875; aged 85; died suddenly, December 3.

Stephen W. Cox, Chicago; Rush Medical College, Chicago, 1889; aged 65; died, December 24, from valvular heart disease.

Callie S. Walker, Kansas City, Mo.; Woman's Medical College, Kansas City, Mo., 1901; died, December 9, aged 69.

Robert Cofer Barrett, Philadelphia; Medical College of Virginia, Richmond, Va., 1914; aged 37; died, December 5.

George F. Garinger, Asherton, Pa.; Jefferson Medical College, Philadelphia, 1873; aged 72; died, December 2.

Aretus Kent Norton, St. Paul; Chicago Medical College, 1872; aged 72; died, December 10, from heart disease.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

SOME SOUND FINANCIAL ADVICE FOR PHYSICIANS AND MEDICAL ADVICE FOR LAYMEN

In an excellent little publication put out by *McClure's Magazine* and entitled "McClure's Financial Booklet," Paul Tomlinson, its author, gives some sage advice on "How to Avoid Worthless Stocks" and on many other financial subjects. Helen M. Davis, who is not a physician, but who, evidently, has a broad and intelligent outlook on things medical, has paraphrased Mr. Tomlinson's financial Don'ts so as to make them applicable to the medical, instead of the financial world. We give below both Mr. Tomlinson's original advice on "How to Avoid Worthless Stocks" and Mrs. Davis' paraphrase thereon. The latter contains information of especial value to the general public, the former is of value equally to the public and to the medical profession.

Avoid stocks whose promoters in their pamphlets show any of the following tendencies:	*Avoid medical treatments whose promoters in their advertisements show any of the following tendencies:*
1. Ridiculing of conservative savings banks.	1. Ridiculing of conservative medical treatments.
2. Denouncing Wall Street (which may or may not be a very bad place, but is invariably denounced by stock promoters for their own purposes and to throw a blind over their own operations).	2. Denouncing the American Medical Association (which may or may not be a "trust" and an "octopus," but is invariably denounced by quacks for their own purposes and to throw a blind over their own operations).
3. Failure to state conspicuously the par value of the stock, or the fact that it has no par value, if that be the case.	3. Failure to state conspicuously the scientific tests by which the value of the treatment has been measured, or the fact that no such tests have been made, if that be the case.
4. Selling the stock at some absurdly low price, such as two cents a share.	4. Selling the treatment at some absurdly high price, so that its practitioners make $1,000 to $2,000 a week.
5. Promise of enormous dividends.	5. Promise of miraculous cures.
6. Attempts to work the hurry-hurry game.	6. Attempts to scare the patient into the belief that he has some terrible disease, especially cancer or syphilis.
7. Advancing the price of the stock by vote of the directors. This is sometimes done by legitimate concerns, but they do not make a hue and cry of it in their circulars, as the swindlers do.	7. Decreasing the price of the treatment for those who do not bite at once. The sliding scale of prices is one of the earmarks of medical mail-order quackery.
8. Offering a limited number of shares to one person.	8. Offering an unlimited number of minor ailments as symptoms of disease.
9. Declaring that the present allotment of stock will soon be exhausted. Even if it is, which is unlikely, there are literally thousands of other good investments, and probably five thousand legitimate, reputable brokers, bankers, banks and trust companies ready to sell them to you.	9. Declaring that their own system is the only sure cure that has ever been discovered. There is no sure cure of disease except that made by nature, and only those with a thorough knowledge of the body are in a position to be able to help nature make the cure.
10. Calling attention to the profits of some other company instead of their own. This is the surest sign of an illegitimate stock. Especially beware of any concern that calls attention to the profits of the Bell Telephone Co. Practically every swindler in the country uses this company as an illustration.	10. Calling attention to the failure of scientists to recognize some discovery fifty or a hundred years ago. This is the surest sign of a quack. The attitude of scientists is more open-minded now than ever before to new discoveries of provable value.
11. As a general principle, stocks in mining and oil companies, with a few notable exceptions, in companies promoting new inventions, or a single proprietary or patented article, in fruit and nut orchards, land companies, in the great bulk of moving-picture companies, should be left severely alone unless there is special, careful investigation. As for nearly all the new stocks, remember they are at best speculations. They may turn out well, but can you afford the risk? New stocks, "maiden offerings," may hold out great possibilities, but you should be a close student of such opportunities before venturing into them.	11. As a general principle, pseudo-electrical or pseudomagnetic treatments, "patent medicines," freak diets and all treatments characterized by mystery should be left severely alone unless there is special, careful investigation. As for new treatments, remember that those brought out by obscure doctors with shady records are at best speculations. They may not kill you, but can you afford the risk? New scientific treatments are always thoroughly tried out on animals before they are even experimentally tried on people. Contrary to the impression which quacks try to give, modern physicians do not make a mystery of their treatments to people who desire to study such treatments before taking them.
12. *Use common sense.* Ninety-nine times out of a hundred you will not be "let into" a fake proposition if you consult your banker or any reputable newspaper or magazine. Losses are of constant occurrence in every business; but at least be sensible enough to avoid the stock that is worthless at the start and never has a chance of success.	12. *Use common sense.* Ninety-nine times out of a hundred you will not be "let into" a fake proposition if you consult your family physician about the "symptoms" which the quack declares mean his pet disease (even while he rants against wrong diagnosis). Diseases are constantly occurring; but at least be sensible enough to find out whether you really have them before you start having them "cured"; and if you have, avoid the treatment that is worthless at the start and never has a chance of success.

MORE MISBRANDED NOSTRUMS

Abstracts of Recent Notices of Judgment Issued by the Bureau of Chemistry of the United States Department of Agriculture

C. J. C. Regulator and C. J. C. Liniment.—Chester J. Czarnecki who traded as C. J. Czarnecki at South Bend, Ind., shipped in April, 1920, a quantity of "C. J. C. Regulator" and "C. J. C. Liniment" which were misbranded. Analysis of a sample of *C. J. C. Regulator* by the Bureau of Chemistry showed the product to contain iron chlorid, a small amount of plant material, a trace of oil of tansy and 18 per cent. of alcohol. The preparation was declared misbranded first, because it was labeled as containing 28 per cent. alcohol when it only contained 18 per cent. and further because it was falsely and fraudulently claimed as an effective remedy, treatment and cure for painful menstruation, hysteria, diseases peculiar to women, etc. The *C. J. C. Liniment*, according to the federal chemists, contained camphor, menthol, 5.2 grains of chloral hydrate to each fluid ounce, ether, ammonia and 63 per cent. of alcohol. The liniment was declared misbranded first, because, while it contained chloral hydrate, the quantity or proportion of this drug was not stated on the label. Neither did the label contain a statement of the quantity or proportion of alcohol and ether present in the liniment. Furthermore it was declared that the therapeutic claims were false and fraudulent, the liniment being described as an effective remedy, treatment or cure of rheumatism, influenza, neuralgia, colds, sore throat, pneumonia, etc. In May, 1922, Chester J. Czarnecki pleaded guilty and was fined $800 and costs.—[*Notice of Judgment No. 10553; issued Nov. 4, 1922.*]

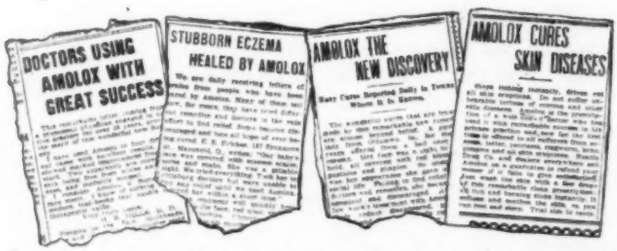
Allan's Red Wash and Parrott Mixture.—The Allan-Pfeiffer Chemical Co., East St. Louis, Ill., shipped in July, 1920, a quantity of "Allan's Red Wash and Sandalwood Emulsion Compound" and also "Parrott Mixture" which were misbranded. The federal chemists reported that analysis showed "Allan's Red Wash" to contain zinc sulphate, boric acid, a phenol, eucalyptol, a trace of alkaloid and water; the "Sandalwood Emulsion Compound" contained santal oil, mineral oil, methyl salicylate, copaiba, small amounts of magnesium and calcium salts and water; the "Parrott Mixture" was reported to consist of an emulsion of turpentine oil, methyl salicylate, camphor, copaiba, gum and water. These products were all falsely and fraudulently labeled as

effective remedies for gonorrhea and gleet. In August, 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 10627; issued Nov. 8, 1922.*]

Parrott Sexual Pills.—The Allan-Pfeiffer Chemical Co., St. Louis, Mo., shipped in April, 1921, a quantity of this product, which was misbranded. The Bureau of Chemistry reported that analysis showed the pills to contain strychnin, and a compound of iron and phosphorus. They were falsely and fraudulently recommended for hysteria, dizziness, nervous prostration, nervous debility and general weakness. In June, 1922, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 10648; issued Nov. 8, 1922.*]

Am-O-Lox Ointment and Am-O-Lox Prescription.—The Am-O-Lox Co., Youngstown, Ohio, shipped in September, 1918, and June, 1919, a quantity of "Am-O-Lox Ointment" and "Am-O-Lox Prescription" which were misbranded.

Am-O-Lox Ointment, when analyzed by the federal chemists, was reported to consist essentially of zinc oxid, sulphur, phenol, methyl salicylate and a small amount of dye in a base composed of petrolatum and paraffin. The preparation was falsely and fraudulently represented as an effective treatment, remedy and cure (when used with "Am-O-Lox Prescription") for eczema and all skin diseases, salt rheum, tetter, eczema of the hands, psoriasis, dandruff, all diseases of the scalp, barber's itch, ring worm, pimples, blackheads, piles, ulcers, boils, burns, red nose, hives and several other things.


DOCTORS USING AMOLOX WITH GREAT SUCCESS
STUBBORN ECZEMA HEALED BY AMOLOX
AMOLOX THE NEW DISCOVERY
AMOLOX CURES SKIN DISEASES

"Am-O-Lox Prescription," the federal chemists reported, consisted essentially of glycerin, carbolic acid, salicylic acid, methyl salicylate, alcohol and water with coloring matter. It was falsely and fraudulently represented as a treatment, remedy and cure (when used with "Am-O-Lox Ointment") for all the conditions that Am-O-Lox Ointment was said to be good for. In September, 1921, the defendant company entered a plea of *nolo contendere* and was fined $25 and costs. —[*Notice of Judgment No. 10360; issued July 26, 1922.*]

Vigoron.—The Sydney Ross Co. of New York City, in November, 1919, and April, 1920, shipped from the State of New York to the State of California forty-two dozen bottles of "Vigoron" which were misbranded. The Bureau of Chemistry reported that analysis showed this product to consist of sugar-coated pills containing compounds of iron, manganese, zinc, arsenic, phosphorus and strychnin. Some of the claims made for the preparation were:

"A Blood Making and Purifying Tonic for . . . Neurasthenia."

"The Supreme Blood and Nerve Tonic. Recommended for . . . Neurasthenia, Nervous Irritability . . . Impotence, Irregular Menstruation . . . and General Conditions of Debility."

"The woman who expects to become a mother should not use Vigoron until the fourth month."

The therapeutic claims made for this nostrum were declared false and fraudulent and in May, 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 10633; issued Nov. 8, 1922.*]

The Enemy Within the Gates.—"The Profession of Physic has been openly Assaulted, or secretly Undermined, by all the Quacks and ignorant Unlicen'st Practicers. But it has suffer'd much more from the Impudence, or Ignorance, or Imprudence of many of the Physicians."—The Craft and Frauds of Physic Expos'd. By R. Pitt, M.D., London, 1703.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TAENIA SOLIUM—TAPEWORM OF PORK

To the Editor:—The specific name *solium,* used in connection with the tapeworm of pork, seems to be a mystery; I am unable to make out its origin or its significance. If it were from *solus,* meaning "the lone tapeworm," the letter "i" has no business in the word. Moreover, the adjective ought then to agree with its substantive in gender, i. e., the name should be *Taenia sola.*

John W. Shuman, M.D., Beirut, Syria.
Professor, American University of Beirut

Answer.—Much time has been used by various persons in trying to trace the origin of the word *solium* in the technical name *Taenia solium,* and the sum total of the result is the conclusion that the origin of this word is not known. One view is that it comes from the Syrian word *schuschl,* which signifies a chain. The Arabs are supposed to have changed this word into *susl* or *sosl,* which became *sol* in the romance languages. By adding the ending *ium,* the word *solium* has been obtained. This, however, is not the only explanation of the possible origin of the word; for instance, it is entirely possible, and has been suggested, that *solium* is a popular rendition of the word *solus* (alone); one author, Villeneuve, who lived about 1300, and who wrote in Latin, states that "some say these cucurbitini are generated in the stomach of a very large earthworm which is sometimes passed longer than one or two arms and which is called a 'solium' or a 'cingulum'" (quidam dicunt quod isti cucurbitini generantur in ventre cuiusdam maximi lumbrici qui aliquando emittitur longior uno vel duobus brachiis, qui *solium* sive *cingulum* dicitur). An early French author (Andry) inclined to the view that *solium* is so called because it is usually alone, namely, there is usually only one of its species in the intestine.

From the standpoint of zoological nomenclature, zoological names begin with 1758, and we do not have to go back of this date for the specific combination *Taenia solium.* Linnaeus, in 1758, published the name *Taenia solium,* but did not give its derivation; accordingly, since its derivation is now in dispute, we can view it under Article 8k of the International Rules of Nomenclature as a barbarous name without known Latin derivation, and this is the usual interpretation that is now accepted. It is entirely possible that *solium* is a vernacular for *solum;* it is entirely possible that it may have some other derivation. Whatever its derivation is, it now stands under the rules as a barbarous name, and is hence not subject to emendation or correction of any kind. The International Rules (Article 19) demand that in order to justify the emendation of a name, the point must be clear that an error of transliteration, a typographic error or a *lapsus calami* is present. In the case of *solium* this is not evident; hence the name cannot be changed, and we continue to use the name *Taenia solium.*

NUMBER 10 PROTEIN SUBSTANCES

To the Editor:—Have you any definite information as to the reliability of Horovitz Protein No. 10 for syphilis? Is it a reliable product? My attention was called to it and I wrote the Horovitz Bio-Chemic Laboratory for figures and proof. I received circulars and a letter *assuring* me, but no proof. Can you give me any definite information?

R. C. Adams, M.D., Bird Island, Minn.

Answer.—We know of no scientific evidence to indicate that Number 10 Protein Substances of the Horovitz Biochemic Laboratories Co. is a product which will cure syphilis. The product is essentially secret in composition. The claims made for it are unwarranted and may lead physicians to use the product unwisely. A. S. Horovitz, president of the Horovitz Biochemic Laboratories Co., was referred to in connection with the asserted cancer cure "Autolysin" (The Horovitz-Beebe Treatment for Cancer, The Journal A. M. A., July 24, 1915, p. 336). Later he was connected with the Wm. S. Merrell Co. and appears to have been largely responsible for this firm's line of "Proteogens" which the Council on Pharmacy and Chemistry declared inadmissible to New and

Nonofficial Remedies (Proteogens of the Wm. S. Merrell Company, THE JOURNAL A. M. A., July 12, 1919, p. 128), and the marketing of which THE JOURNAL characterizes as "another attempt to foist on our profession a series of essentially secret preparations whose therapeutic value has not been scientifically demonstrated." In the claims advanced for them, the products marketed by the Horovitz Biochemic Laboratories Co. bear a striking resemblance to the Merrell Proteogens. As in the case of the Proteogens, the Horovitz Laboratories have a list of "Protein Substances," each of which is claimed to be more or less specific against a given disease or condition.

TREATMENT FOR TAPEWORM

To the Editor:—Please describe the most satisfactory treatment for tapeworms infesting an 8 year old boy. INQUIRER, Virginia.

ANSWER.—An excellent tapeworm remedy for a child is pelletierin tannate, because its taste is more easily disguised than that of the oleoresin of aspidium. The dose for an 8 year old child, according to Young's rule, would be two fifths of the adult dose, or from 0.08 to 0.12 gm. (the adult dose being given at from 0.20 to 0.30 gm.). This remedy is best administered dissolved in 30 c.c. of a syrup, for instance, syrup of citric acid, or in one of the aqueous elixirs of the National Formulary, such as the aqueous elixir of glycyrrhiza.

The oleoresin of aspidium, which is more difficult to disguise, would be administered in a dose of 3 gm., which is approximately two fifths of the adult dose of 8 gm. This might be given in the form of an emulsion, or mixed with honey or fruit preserves. It is almost hopeless, however, to render this dose palatable.

On the day preceding, it would be best to give a liquid diet, with mild mercurous chlorid (calomel), solution of magnesium citrate and colonic flushing to secure as clean an alimentary tract as possible. On the morning of the treatment the patient should stay in bed and be given a full dose of the remedy selected. If the patient is in bad physical condition or has considerable irritation of the alimentary tract, a smaller dose is preferable for the sake of safety, to be increased in case of failure at the next administration, for which it is best to wait a few weeks.

From one to two hours after the dose, the patient is given a wine-glassful of solution of magnesium citrate every hour until profuse evacuation has been secured.

ARGYRIA

To the Editor:—I have a patient who treated his throat with local application of silver nitrate for several years. Later his skin gradually became quite dark and has remained so ever since. He is in perfect health and has no renal trouble. Do you know of any remedy to remove the effects of the silver nitrate? Please omit my name.

PHYSICIAN, Iowa.

ANSWER.—The patient evidently has argyria as a result of the persistent use of silver nitrate locally in the throat. The pigmentation is due to the actual deposit of the silver in the tissues, and it is irremediable.

USE OF PERTUSSIS VACCINE

To the Editor:—Please allow me to ask whether the period of contagion in pertussis is shortened by the treatment of the disease with pertussis vaccine. I have in mind a child, aged 18 months, in whom the disease came on abruptly. Vaccine treatment was started at once, and after four treatments of vaccine there is apparently a clinical cure: Vomiting, whooping, paroxysmal coughing have all ceased; the lungs are clear; the cough now is single or in couplets, and occurs only three or four times a day. Under these conditions would it be proper for a brother who has had preventive vaccine treatment to attend school, he being free of all symptoms of whooping cough after two weeks of exposure? If answered in THE JOURNAL, please do not publish my name.

———, M.D., Indiana.

ANSWER.—Regulations as to quarantine of cases of whooping cough vary in different places. It has been customary to extend the quarantine until the paroxysmal stage has terminated. The regulations of the Illinois department of health require quarantine "until five weeks after the development of the characteristic whoop or paroxysmal cough, or until one week after the characteristic whoop has disappeared."

There is much evidence that the danger of spread of infection is slight by the time that the characteristic whoop has well developed. This is indicated by the experience of hospitals and institutions for children, in which whooping cough is usually introduced by children who have the disease in the catarrhal stage, and rarely by those who have well developed paroxysms.

There appear to be no data at hand by which the effect of vaccines on the period of contagion of whooping cough can be estimated. The same rules would probably be valid as in unvaccinated cases.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, Jan. 9. Chairman, Dr. Samuel W. Welch, Montgomery.

DISTRICT OF COLUMBIA: Washington, Jan. 9. Sec., Dr. Edgar P. Copeland, Stoneleigh Court, Washington.

HAWAII: Honolulu, Jan. 8. Sec., Dr. G. C. Milnor, 401 Beretania St., Honolulu.

ILLINOIS: Chicago, Jan. 9-11. Supt. of Registration, Mr. V. C. Michels, Springfield.

INDIANA: Indianapolis, Jan. 9. Sec., Dr. W. T. Gott, Crawfordsville.

KANSAS: Topeka, Feb. 13. Sec., Dr. Albert S. Ross, Sabetha.

NATIONAL BOARD OF MEDICAL EXAMINERS: Written examination in Class A medical schools. Part I and II, February 12-14 and February 15-16. Sec., Dr. John S. Rodman, 1310 Medical Arts Bldg., Philadelphia. Application for the February examination must be sent in by January 1.

NEW MEXICO: Santa Fe, Jan. 8-9. Sec., Dr. R. E. McBride, Las Cruces.

OKLAHOMA: Oklahoma City, Jan. 9-10. Sec., Dr. J. M. Byrum, Shawnee.

PENNSYLVANIA: Philadelphia, Jan. 30-Feb. 3. Sec., Mr. C. D. Koch, Professional Credentials Bureau, 422 Perry Bldg., Philadelphia.

SOUTH DAKOTA: Pierre, Jan. 16. Director, Dr. H. R. Kenaston, Bonesteel.

VERMONT: Burlington, Feb. 13. Sec., Dr. W. Scott Nay, Underhill.

WEST VIRGINIA: Charleston, Jan. 9. State Health Commissioner, Dr. W. S. Henshaw, Charleston.

WISCONSIN: Madison, Jan. 9-11. Sec., Dr. John M. Dodd, 220 E. Second St., Ashland.

Georgia October Examination

Dr. C. T. Nolan, secretary, Georgia State Board of Medical Examiners, reports the written examination held at Atlanta, Oct. 10-12, 1922. The examination covered 10 subjects and included 100 questions. An average of 80 per cent. was required to pass. Of the 6 candidates examined, 5 passed and 1 failed. Five candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
University of Michigan Medical School		(1922)	92.7
Eclectic Medical College		(1922)	90.9
Ohio State University College of Medicine		(1921)	90.6
Medical College of the State of South Carolina		(1922)	94.7
University of Virginia		(1920)	94.5
	FAILED		
Meharry Medical College		(1915)	72

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Tulane University		(1922)	Louisiana
Johns Hopkins University		(1918)	Maryland
University of Pennsylvania		(1914)	Minnesota
Meharry Medical College		(1917)	Tennessee
University of Zurich		(1917)	Dist. Colum.

Montana April Examination

Dr. S. A. Cooney, secretary, Montana State Board of Medical Examiners, reports the written examination held at Helena, April 4-6, 1922. The examination covered 10 subjects and included 50 questions. An average of 75 per cent. was required to pass. Of the 5 candidates examined, 4 passed and 1 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Northwestern University	(1921) 78.3,	(1922)	78
Washington University		(1910)	80.8
Medical College of Virginia		(1918)	80.1
	FAILED		
Ensworth Medical College		(1909)	67

Medical Economics

THE PROBLEM OF PERSONAL MEDICAL ADVERTISING

M. L. HARRIS, M.D.
CHICAGO

Advertising seems to be one of the most popular occupations of a constantly increasing percentage of the medical profession today. It may be of interest to physicians to be brought face to face with an iniquity which, unchecked, is certain to bring disgrace to the profession. "To advertise" is practically defined in the dictionary "to consist in publishing in a newspaper or in some similar way statements generally designed to promote the financial or other interests of the person concerned." It is perfectly evident from this definition that the motive which underlies advertising is one of selfish acquisitiveness, and that it is not based on the desire to impart information.

It seems to be difficult or impossible for some persons to distinguish the difference between imparting useful information concerning health matters to the public, and advertising their own particular abilities. In the practice of medicine, which from its very essence must forever be impregnated with humanitarianism, self-exploitation can find no justification if one has due regard for the imperfections of medical science and for the ability of others. There is no man, no group of men, so possessed of medical knowledge that they should be blinded to a realization of their own insufficiency.

The extent to which individual members as well as groups of members of the profession under various high-sounding titles are soliciting patients by methods of advertising which are flagrant violations of the principles of ethics as well as of ordinary decency is growing at an alarming speed. Scarcely a day passes that some new form of advertising is not brought to the attention of the Judicial Council of the American Medical Association, and during the last six months an extraordinary number of matters of this kind have been presented to the Council. Some of these advertisements are camouflaged under the guise of bulletins or announcements, the bulletin of the ——— group or the ——— clinic; others are just plain out and out advertisements in the newspapers. Some of the bulletins which are issued periodically are distributed quite freely throughout the territory supposed to be tributary to the particular group. They often contain two or three pages of short clippings from medical journals to give them the appearance of having been sent out for the purpose of distributing useful knowledge; then follows the little ad., such as:

Dr. So and So, of our group, has just returned from a visit to such a center, or clinic, and has brought with him some wonderful knowledge, or method, or device, which will enable this group to do something which no one else in that vicinity is prepared to do.

Or there may be reported in brief a case, somewhat as follows:

CASE 41144.—Mrs. Blank suffered many years; consulted several physicians in the neighborhood without relief; referred to our "academy" or "clinic." An examination by our group of experts resulted in a correct diagnosis being made for the first time, and the patient was cured, etc.

In detailing these examinations, many tests are frequently mentioned for the purpose of impressing the readers with the great knowledge and thoroughness of the group examinations, it being immaterial whether all of the tests mentioned were necessary to the making of a correct diagnosis or not.

Another method of advertising is to publish in the newspaper an extensive write-up of the group or clinic, containing an elaborate description of the offices, of the wonderful paraphernalia and equipment, and last, but by no means least, a complete and unexpurgated pedigree of each and all of the members of the group, with their pictures. The character of these write-ups is such as to make it perfectly evident that they must have been written by the physicians themselves.

I should like to present a few excerpts from some of these advertisements which have been received recently.

Dr. A has had the most extensive and thorough medical training of any doctor in ———.

Dr. B is the premier surgeon of this community. ———'s position as a surgical center of this territory is due largely to his successful practice of surgery.

More than 1,000 residents of ——— were assisted into the world by Dr. C. In the course of so extensive obstetrical practice it necessarily follows that he has encountered almost every kind of difficult labor, and his results have demonstrated his ability to cope with these emergencies as they arise.

Training that comes of the examination of more than 10,000 patients is brought to the ——— clinic by Dr. D, the clinic roentgenologist.

Dr. E has had the most extensive and varied medical practice of any doctor in ———.

Dr. F is the Nestor of the medical profession of the city of ———. The extent of his practice is indicated by the fact that his prescription number on ——— date of the current year was 126959. In the course of his many years of practice there is hardly a disease or ailment flesh is heir to that the doctor has not been called upon to treat.

I am sorry that time does not permit me to quote more of these interesting and instructive excerpts. These are all taken from newspaper ads of the pedigrees of these group doctors, each one being accompanied by a picture of the doctor. I am sure you will agree with me that none of these doctors is liable to fall dead of modesty. I will read a few more excerpts from a newspaper advertisement of a recent group in another city:

"The general practitioner must depend upon his reputation for skill and his personality to draw patronage to his office." This particular group is to do away with this old fogey idea, as it is evidently going to depend on advertising to get its patients. It is certainly amazing and something novel in the history of medicine for medical men to deplore the fact that the physician should be obliged to secure his patients by reason of his professional skill and pleasing personality.

Has it come to pass in the practice of medicine that knowledge and skill and ability and personality are to be rated below printers' ink and audacity in advertising? Are we to return to the days of the blatant quack extolling his own wonderful virtues in printed prose and hawking them from the street corners? Have we arrived at a time when the physician's ability and skill are to be gaged by the number on his last prescription?

Another quotation—and this is a sub headline in a newspaper—"Eliminates competition." "It has been said that the profession of medicine is highly competitive, especially in the smaller cities, each physician being a competitor of every other physician." This clinic states it is going to do away with competition because every doctor in the group is to share in the profits of the business. Do the physicians of this group think for a minute that group practice is going to do away with competition? Does the group imagine that it is going to secure all of the medical business of that community? How absurd. We already have the disgraceful spectacle of two groups in the same town, each advertising its superiority over the other. How long can physicians making use of such tactics hope to retain the respect and confidence of the people?

Just a few more excerpts: "The physicians of the clinic are 'physicians first,' devoting their entire time to caring

for patients, while an entirely separate department looks after all matters of a business nature, such as the settling of accounts. . . . The troublesome relationship concerning payment of fees and bills is largely eliminated, as the physician is concerned only with the patient's sickness. The business manager must look after all else." What has become of the humanitarian spirit in the practice of medicine, the cherished inheritance of the ages, when physicians announce in the daily press that hereafter they will be so occupied in caring for the physical welfare of their patients that they have turned over to a business agent all business matters, such as all charges, fees, bills, etc., and then incidentally mention in the same announcement that patients will please see the business manager before making an appointment with the doctor? This is prostituting an altruistic profession to plain, outright commercialism. What a mockery are the Principles of Ethics when physicians pledged to support and follow them deliberately and openly trample them in the dirt. If the medical profession is to save itself from everlasting disgrace, something will have to be done to prevent its degenerating into vulgar commercialism by way of newspaper advertising and similar methods.

Book Notices

HANDBUCH DER GESAMTEN MEDIZINISCHEN ANWENDUNGEN DER ELECKTRIZITÄT INSCHLIESSLICH DER RÖNTGENLEHRE. In drei Bänden bearbeitet von zahlreichen Fachgelehrten des In- und Auslandes. Herausgegeben von Prof. Dr. med. H. Boruttau, Privatdozent der Physiologie an der Universität Berlin, und Prof. Dr. med. L. Mann, Privatdozent der Nervenheilkunde an der Universität Breslau. Mitherausgeber für den Röntgenband: Prof. Dr. med. M. Levy-Dorn, Leitender Arzt am Rudolf-Virchow-Krankenhause in Berlin, und Prof. med. P. Krause, Direktor d. medizinischen Universitätspoliklinik in Bonn. Band III, Lieferung 1: Das röntgentherapeutische Instrumentarium. Von Dr. Heinrich Martius, Privatdozen und I. Assistent der Univ.-Frauenklinik in Bonn a. Rh. Band III, I. Teil, Lieferung 1: Die Röntgenphysik, die allgemeine Röntgentechnik, das diagnostische Röntgenverfehren (allgemeiner Teil). Von Prof. Dr. M. Levy-Dorn, Leitender Artz am Rudolf-Virchow-Krankenhause. Band III, 2. Teil, Lieferung 2: Grundlagen der Dosimetrie der Röntgenstrahlen. Von Dr. med. Hans Th. Schreus, Privatdozent und Assistant an der Universitätsklinik für Hautkrankheiten in Bonn a. Rh. Leipzig: Dr. Werner Klinkhardt, 1922.

This is the third volume of a handbook dealing with the application of electricity to medical work and with the physics of roentgen rays. In the introductory pages an outline is given of the modern conceptions of the fundamental electric theories, restricted to the points that are necessary for an understanding of the genesis and nature of the roentgen rays. The electron theory is touched on, and the terms volt, milliampere and ohm are explained as to their meaning and application. Electric induction and electromagnetism are defined and elucidated. It is demonstrated how the electric current is not only likely to produce heat but also to furnish chemical action. In the second subdivision, general roentgen technic is taken up. After the principles of the function of a roentgen-ray tube are explained, the various tubes are described. The difference between gas and ion tubes, and tubes of high vacuum and electron tubes are set forth. Half schematic drawings and complete pictures facilitate the understanding of the text, which in its contents is held down to the physical necessaries, without putting too high demands on the reader's education in physics. The Coolidge and Lilienfeld tubes are dealt with in a special chapter. Of great value to the roentgenologist are the rules given for the selection of tubes for the various purposes in roentgen-ray photography and treatments. Instruction is furnished concerning prolonging the life of the tubes, and their maintenance at the highest efficiency. Measuring of the hardness and quality of the roentgen rays is explained, and the pertinent apparatus are described as far as practical purposes are concerned. The intention of the author to furnish complete practical information is again demonstrated in the chapters dealing with the appliances that are used for the holding of the tubes in action and for the placing of the patient, and the fixation of those part: of the body that are the object of examination or treatment. The closing chapter is devoted to the discussion of the making of roentgenograms. The merits of the various plates and films and the method of development are elaborated on, and practical hints are given. In order to facilitate the discussion, the three capital parts of every therapeutic outfit are taken up separately: the generator, which furnishes the high tension currents, producing the cathode rays; the roentgen-ray tubes, in which the cathode rays are transformed into roentgen rays; and the auxiliary implements, the various statives and filters, the roentgen-ray table and all the protective arrangements. The author compares the merits of the self-hardening boiler tubes, the high vacuum tubes, and the tubes whose construction is based on the producing of roentgen rays by thermoionization, the Coolidge and Lilienfeld tubes. He appreciates the fact that the Coolidge tube has the advantage that intensity and hardness may be regulated independently, and recommends the use of storage batteries, in preference to any other heating device, for heating the glowing spiral. The last pages are devoted to the discussion of the accessory apparatus, statives, compression tubes, ray collector and tables for appropriately placing the patient. As a whole, the book gives the reader a complete survey of the present status of roentgenology, and is an excellent guide and a fruitful source of information for the physician engaged in practicing roentgen-ray diagnosis and therapy.

CLINICAL MEDICINE. I: Tuesday Clinics at the Johns Hopkins Hospital. By Lewellys F. Barker, M.D., LL.D., Visiting Physician to Johns Hopkins Hospital. Cloth. Price, $7 net. Pp. 617, with 66 illustrations. Philadelphia: W. B. Saunders Company, 1922.

The chief fault with this book is that it contains too many puerile questions and answers, unnecessary repetitions, and irrelevant facts as to history and physical findings. In the actual clinical conference, many of these things may be admissible and of value. In the edited lecture that is to be read, they are wearisome, time consuming and disconcerting. All the advantages of the clinical lecture—and we agree with Barker that the amphitheater clinic has its place and its advantages—will be retained in the lecture that is rewritten from the stenographic notes and printed, as were Trousseau's lectures, with unnecessary verbiage cut out. Dr. Barker has the learning, the easy command of English, and the clinical material that would enable him to write most entertainingly and instructively. Even as it is, with this fault just mentioned, he has given a volume that will be welcomed by many a practitioner who will find in these thirty-two lectures much helpful, up-to-date information. The reader will appreciate, too, the bibliographies that are appended to each lecture. These are not intended to be complete; but they will stimulate to further study.

UNTERSUCHUNGEN ÜBER DIE KÖRPERLICHEN STÖRUNGEN BEI GEISTESKRANKEN. Von Dr. Otto Wuth, Privatdozent an der Universität München. Paper. Price, $3.20. Pp. 113. Berlin: Julius Springer, 1922.

This is No. 29 of the monograph series edited by Foerster and Wilmanns. It contains an account of original biochemical investigations, and a review of those of others, in paretic dementia, manic-depressive insanity, epilepsy and dementia praecox. Ten subjects were investigated: the serum albumin content, the albumin globulin quotient, coagulability and the antitryptic titer of the blood, the precipitation of blood corpuscles by sodium citrate, the morphology of the blood, and the sugar, residual nitrogen, creatinin and uric acid in the serum. Those interested in such investigations will find data of value in this work. The author is very sober and cautious in his conclusions.

TASCHENBUCH DER RÖNTGENOLOGIE FÜR AERZTE. Von Dr. Med. Henri Hirsch, Facharzt für Strählentherapie in Hamburg, and Dr. Med. Rud. Arnold, Facharzt für Röntgenologie in Hamburg. Paper. Price, 90 cent. Pp. 107, with 62 illustrations. Berlin: Julius Springer, 1922.

This little book is intended for the physician who is not a roentgenologist but who desires an insight into what the use of the roentgen ray can offer. The first half deals with diagnosis, the second with the mechanics, technic of appli-

cation and the indication for roentgen-ray therapy. As a little compend or, better yet, as a means of obtaining a short and concise review of the subject, it fills the bill admirably. The outstanding objections, in view of the purpose for which it appears, are that too much is attempted in a small space, and that the illustrations, instead of being reproductions of plates, are diagrammatic in character. Any one who has taught for any length of time knows that diagrams in this important department of diagnosis can never impress the beginner as thoroughly as reproductions of plates. If diagrams accompany the plates, the result is still better. The section dealing with therapy is presented in a much more convincing manner. The general rules to be observed, a few words as to the type of tube, the current, technic, and choice of method are given in fair detail. The author is optimistic as to the value of this form of treatment.

Medicolegal

Competent Testimony of Alienist

(State v. Cerar (Utah), 207 Pac. R. 597)

The Supreme Court of Utah, in affirming a conviction of murder, says that it was insisted that there had been error in admitting in evidence the statements of a physician who testified as an expert alienist on behalf of the state with regard to what he had learned from making an examination of the defendant some months after the homicide and about six weeks before the trial. The statements of the physician respecting the defendant's mental condition were full, fair, and explicit in every particular. The court hardly grasps the force of counsel's contention that, in permitting the physician to testify concerning the defendant's mental condition, both past and present, some constitutional right was invaded, because, in stating the result of the physician's examination, the defendant was compelled to give evidence against himself. It certainly would be strange doctrine to permit one charged with a public offense to put in issue his want of mental capacity to commit the offense, and in order to make his plea of want of capacity invulnerable prevent all inquiry into his mental state or condition. The physician frankly stated that, in determining the mental state of the defendant at the time the latter was alleged to have committed the offense, he took into consideration only the facts stated in the hypothetical question. He, however, also said that the defendant's physical and mental condition at the time he made the examination were necessary factors in determining whether the defendant at the time the alleged offense was committed was in fact afflicted with the mental infirmity asserted by his counsel and which had been testified to by a physician who was a witness for the defendant. No one disputed the statements of the state's witness. The court is clearly of the opinion that no error was committed in admitting his statements in evidence.

Permanent Loss of Member and Total Disability

(Heaps v. Industrial Commission et al. (Ill.), 135 N. E. R. 742)

The Supreme Court of Illinois, in affirming a judgment that confirmed an award of the industrial commission in favor of one Betow, who had been injured while in the employ of Heaps, says that Betow had been blind in his left eye for five years when the injury in question occurred, which was to his right eye. The evidence showed conclusively that, by the injury to his right eye, he was reduced to total blindness, except when his eye was propped open by plasters or other artificial means. If further showed that he was practically blind and unable to do his work when his eye was kept open, and that keeping it open was very injurious to it, because it was not protected from dust and other flying particles by tears and other natural processes. There was no hope of improvement, and very little, if any, of his ever again seeing out of his left eye, even if it was operated on for cataract; and there was every prospect that his right eye would continue to grow worse and give him less vision. It was not questioned that he was entitled to compensation for his injury, but it was contended that he had not sustained complete loss of use or vision of his eye, and that it was error to award compensation for total disability. But the supreme court thinks that the evidence sustained the claim of Betow that he had suffered the loss of both eyes, or the permanent and complete loss of use thereof, within the meaning of the workmen's compensation act. It was not necessary, to sustain the award in this case, to show total and complete loss of sight under all circumstances. Betow was entirely blind at all times, except when he used artificial means to keep his eye open. When this was done, he had only 12/200 vision, which amounted practically to blindness, and that condition was morally certain to grow worse.

"Permanent loss," as used in the compensation act concerning the loss of an eye, limb, etc., means the taking away of the normal use of the member. The loss of a member is complete when the normal use of the member has been taken away. Ability to do some work by aid of a mechanical device is not inconsistent with complete loss of the use of an eye or a hand. It is now a well-established rule, in Illinois and other states, that where an employee, who previous to his employment has lost an eye, loses the other eye as the result of an injury, or who has lost an arm, and loses a leg as the result of an injury arising out of and in the course of his employment, he is entitled to compensation for total permanent disability. The reason for this rule is that, by the destruction of the one remaining eye, the employee loses all the capacity to see that he has, and an injury causing such a loss of the remaining eye necessarily causes total disability to see.

Refreshing the Memory—Exhibition of Umbilical Hernia to Jury

(Walsh v. Chicago Rys. Co. et al. (Ill.), 135 N. E. R. 709)

The Supreme Court of Illinois, in affirming a judgment in favor of the plaintiff for damages for personal injuries, says it was urged that there was error in overruling a motion to exclude the testimony of a physician that he had been the examiner for certain insurance companies and in the course of that work had examined the plaintiff, in May, 1914, and that the plaintiff did not then have a hernia. On cross-examination, it was shown that the witness had no independent recollection of so examining the plaintiff; that to refresh his recollection he had read memorandums kept by the company, a part of which he himself had made. It was objected that all of the memorandums were not made by the physician himself, and therefore he should not have been permitted to refresh his recollection therefrom. It has been held by this court, in accordance with standard authorities, that it is not necessary that the writing used by the witness to refresh his recollection be made by the witness himself, or that it be his original writing, provided that, after inspecting the record, he can speak of the facts from his own recollection. Neither is it necessary that the writing thus used be admissible in evidence. It was obvious, from a reading of this physician's testimony, that he was testifying according to his recollection as to the plaintiff's condition in May, 1914, after refreshing his memory from the memorandums made at the time and kept by the company.

It was also urged that error was committed on the trial of this case, in allowing the plaintiff to exhibit the umbilical hernia; that this exhibition of his person could have no other result than to arouse the prejudice of the jury. In view of the character of the injury, and the question whether it was caused by the accident, as the jury found, this court is of the opinion that it could not be fairly held that, in allowing damages of $2,500, the jury were influenced by passion or prejudice. On the trial of a case, the question whether the injuries to the person shall be shown to the jury is left largely to the discretion of the trial court. When the question bears on the extent of the wound or injury, it is the common practice to exhibit it to the jury, so they may see for themselves its nature and extent. This court finds no error committed by the trial court in its ruling on this point.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

December, 1922, **24**, No. 6

*Vital Capacity of Lungs of Children in Health and Disease. C. A. Stewart, Minneapolis.—p. 451.
*Dehydration in Newly Born. I. H. Bakwin, New York.—p. 497.
Dehydration Fever in Newly Born. II. H. Bakwin, New York.—p. 508.
Treatment of Accessory Nasal Sinus Disease in Children. H. B. Lemere, Omaha.—p. 520.
*New Eruptive Fever Associated with Stomatitis and Ophthalmia. A. M. Stevens and F. C. Johnson, New York.—p. 526.
Congenital Duodenal Obstruction: Malrotation of Intestine. Report of Case. B. S. Denzer, New York.—p. 534.

Vital Capacity of Lungs of Children.—From Stewart's study it appears evident that the determination of the vital capacity of patients having diseases of the heart and lungs is of distinct clinical value. It is stated that it is inadvisable to use the determination of the vital capacity to the exclusion of other means of making a diagnosis, for occasionally this measurement is very misleading, and might easily lead to serious error if relied on alone. However, with the exercise of proper judgment and care, one usually is able to use the information gained through the measurement of the vital capacity safely and profitably in determining not only the presence but also roughly the extent and progress of disease of the heart and lungs.

Dehydration in the New-Born.—Dehydration was studied by Bakwin in newly born babies by correlating weight changes, skin elasticity and serum protein concentration (plasma water). Usually a marked weight loss in the newly born baby is accompanied by a loss of skin elasticity and an increase in the serum concentration (indicating a diminution in skin and plasma water). There are babies, however, who, despite relatively large weight losses, show no evidence of dehydration of the skin or plasma. In these babies, presumably, the water reserve of the tissues at birth is large. On the other hand, there are babies who show evidence of dehydration at birth. The skin alone may be desiccated (loss of skin elasticity without increase in the serum protein concentration) or both skin and plasma may be involved (loss of skin elasticity and increase in serum protein concentration). Since the water content of the baby varies so widely at birth it is impossible to tell from the weight curve alone whether or not a baby is dehydrated. The plasma water per cent. may increase even though there is no increase in weight. Impairment of skin elasticity may, and often does, occur without increase in the plasma concentration. Increase in the plasma concentration is usually, but not always, accompanied by an inelastic skin.

New Eruptive Fever.—Stevens and Johnson report two cases of an extraordinary, generalized, eruption with continued fever, inflamed buccal mucosa and severe purulent conjunctivitis. The first patient was seen on the tenth day of illness and followed to recovery. The second patient did not come under observation until the twenty-second day after onset of the illness; but the skin lesions at that time corresponded exactly with those of the first case at the same stage of the disease, and a careful description of the eruption as seen in the first week establishes its identity with that in the first case. No diagnosis could be made to correspond with the symptoms and course of the eruption in these two cases and no description was found of a skin condition in any degree comparable. Both cases occurred in boys, one aged 7, the other 8, coming from widely separated parts of a city, with no possibility of contact. Both cases manifested a purulent conjunctivitis, in the second case going on to panophthalmitis and total loss of vision, and in the first case responding to treatment, but leaving a severe corneal scar. The pus showed pyogenic organisms only, no gonococci. A high and continuous fever was present in both cases, explainable in the second case by a lobar pneumonia, but in the first case without apparent cause other than the skin condition.

American Journal of Ophthalmology, Chicago

December, 1922, **5**, No. 12

Opaque Canal of Cloquet with Persistent Hyaloid Artery. H. W. Scarlett, Philadelphia.—p. 941.
Clinical Observations on Cornea. R. Von der Heydt, Chicago.—p. 943.
Two Cases of Retinitis Proliferans of Syphilitic and Diabetic Origin. V. L. Raia, Providence, R. I.—p. 946.
Some Facts About Salicylate Therapy. S. R. Gifford, Omaha.—p. 948.
Ocular Manifestations in Case of Hypophyseal Syphilis. F. P. Calhoun, Atlanta, Ga.—p. 952.
Hypophyseal Disease Probably of Syphilitic Origin. B. W. Key, New York.—p. 956.
Consideration of Cataract Procedures. W. F. Hardy, St. Louis.—p. 961.
Intra-Ocular Malignant Tumors in Young Children. C. J. Adams, Kokomo, Ind.—p. 967.
Impressions of Cuban Ophthalmologist. C. B. Welton, Peoria, Ill.—p. 970.
Infected Corneal Ulcer. E. C. Moulton, Fort Smith, Ark.—p. 972.
Auto-Ophthalmoscopy. Subjective Examination of Retina. S. I. Eber, Pittsburgh.—p. 973.

American Journal of Roentgenology, New York

November, 1922, **9**, No. 11

Foreign Bodies in Bronchus and Esophagus. C. F. Bowen, Columbus, Ohio.—p. 705.
*Roentgenologic Study of Pathologic Gallbladder. B. R. Kirklin, Muncie, Ind.—p. 713.
*Roentgen Ray in Diagnosis of Scoliosis. F. W. Lamb, Portland, Me.—p. 723.
Unusual Foreign Body (Lead Pencil) in the Arm. C. F. Baker, Newark, N. J.—p. 727.
*Report of Three Unusual Cases. T. A. Groover, A. C. Christie and E. A. Merritt, Washington, D. C.—p. 729.
Two Tables Pertaining to Incidence of Bodily Habitus and Time of Complete Gastric Motility in Different Type of Habitus. R. W. Mills, St. Louis.—p. 731.
Roentgen-Ray Laboratory of University Hospital, Philadelphia. E. P. Pendergrass and W. R. Jamieson, Philadelphia.—p. 735.
Roentgen-Ray Therapy in Dentistry. J. L. Garretson, Buffalo.—p. 740.
Van Zwaluwenberg Type of Stereoscope. S. W. Donaldson and E. F. Merrill, Ann Arbor, Mich.—p. 742.
New Safety Device (Circuit Breaker). H. W. Van Allen, Springfield, Mass.—p. 745.
Time-Saving Devices for Roentgen-Ray Treatment of Ringworm and Favus of Scalp. G. M. Mackee and G. C. Andrews, New York.—p. 746.
Marker for Identifying Right and Left Eye Images in Stereoscopic Chest Films. P. C. Hodges, Peking, China.—p. 751.
New Method of Simultaneous Stereoscopic Observation of Both Mastoids. P. C. Hodges, Peking, China.—p. 753.
New Radium Applicator for Treatment of Cataracts. B. Allen, Iowa City, Ia.—p. 755.
Case of Tuberculous Gingivitis Treated with Apparent Success by Radium. G. E. Pfahler and B. P. Widmann, Philadelphia.—p. 756.
Technic and Statistics in Treatment of Carcinoma of Bladder by Radium. B. S. Barringer, New York.—p. 757.
Results of Treatment of Carcinoma of Cervix with Statistics and Technic. C. F. Burnam, Baltimore.—p. 765.

Roentgen-Ray Study of Diseased Gallbladder.—Kirklin has made a complete roentgenologic gallbladder study of 712 patients, and reported "roentgen-ray evidence of gallbladder pathology, with or without stones in 251 cases. In 214 of these cases in which data could be obtained, the surgeons reported that the gallbladder was normal to palpation in seven cases in which Kirklin had reported positive roentgenologic findings, and in six of the cases in which he had reported negative roentgenologic findings the surgeons reported gallbladder pathology of some form. In other words, the roentgen-ray conclusions were confirmed in all but fourteen cases, or approximately 93.5 per cent. Kirklin urges that a careful roentgenologic investigation should be made of the gallbladder region of every case that is referred for abdominal study.

Roentgen Ray in Diagnosis of Scoliosis.—Lamb asserts that a correct diagnosis of scoliosis, even in the earliest stages, may be made by the use of roentgen rays, but only if the operator recognizes the fact that the old positions produce misleading roentgenograms. In making a roentgen-ray diagnosis of scoliosis, the extreme right and left scoliotic position must be used. If the roentgenograms taken in these two positions show the lateral bending and the rotation equal and symmetric there is no deformity. On the other hand, if the roentgenograms are asymmetric there is a fixed deformity.

Anomaly of Left Lobe of Liver.—In examining thirty-five cases by the pneumoperitoneum method, Groover, Christie and Merritt have noted an anomaly of the left lobe of the liver in two patients. This lobe was larger than the normal

spleen, but occupied the splenic area, and the spleen was markedly enlarged and displaced downward. In the third case a perinephritic abscess communicated with the pelvis of the kidney.

American Journal of Syphilis, St. Louis

October, 1922, **6**, No. 4

*Transmission of Syphilis to Second Generation. J. V. Cooke and P. C. Jeans, St. Louis.—p. 569.
Practical Observations on Syphilis. IV. Syphilis of Nervous System. H. H. Hazen, Washington, D. C.—p. 586.
Symmetrical Synovitis of Knee in Congenital Syphilis (Clutton's Joints). J. E. Lane, New Haven, Conn.—p. 611.
*Incidence of Syphilis: Analysis of 1,088 Necropsies. W. W. Hala, Brooklyn.—p. 616.
From Fracastorius to Ehrlich. A. Ravogli, Cincinnati.—p. 623.
Standard of Cure in Syphilis. A. R. Fraser, Cape Town, S. Africa.—p. 633.
Standardization of Wassermann Reaction, XXIX. Methods for Establishing Uniform and Standardized Unit of Antigen. J. A. Kolmer, Philadelphia.—p. 651.
Id. XXXI. New Complement Fixation Test for Syphilis Conducted with Antihuman, Antichicken and Antiox Hemolytic Systems. J. A. Kolmer, Philadelphia.—p. 667.
Id. XXXII. Comparative Study of New Complement Fixation Test for Syphilis with Other Methods. J. A. Kolmer, Philadelphia.—p. 680.
Fibroid Subcutaneous Syphiloma; Report of Case Associated with Syphilitic Bursitis; Review of Literature. H. Goodman, New York.—p. 687.
*Diffuse Syphilitic Mastitis. W. N. Taylor, Columbus, Ohio.—p. 696.
Study of Wassermann Reaction in Large Group of Supposedly Nonsyphilitic Persons Including Groups of Diabetics and Nephritics. J. R. Williams, Rochester, N. Y.—p. 703.
*Syphilis Complement Fixation Reaction in Pregnancy with Special Reference to Kolmer Reaction. F. C. Smith, Philadelphia.—p. 705.
Clinical Value of Wassermann Reaction: Comparison of Cholesterinized and Noguchi Antigens (Acetone Insoluble). R. C. Jamieson and H. Ainslee, Detroit.—p. 708.

Transmission of Syphilis to Second Generation.—Experience extending over a period of ten years and based on the observation of many hundreds of cases has strengthened the confidence of Cooke and Jeans in the value of the Wassermann reaction in the hereditary form of the disease. It is highly probable that all mothers of syphilitic children are infected, although occasionally mothers of syphilitic infants have negative Wassermann reactions, and more often mothers of older syphilitic children have weakly positive or negative reactions. In all such instances the maternal infection is latent. A strongly positive Wassermann reaction in the mother does not mean that her infant will necessarily be infected and consequently a syphilitic mother may bear a healthy child. When the mother's Wassermann reaction is positive with the cholesterolized antigen only, the chances are about seven to one that the infant is not syphilitic. In most instances the father brings the infection into a family, although nearly 40 per cent. of the fathers of syphilitic children have negative Wassermann reactions (at the time the children are examined). The male may therefore transmit the disease after his infection has become latent. Transmission to the third generation is possible, but is incapable of proof. Identical or single ovum twins born to a syphilitic mother are both infected or both escape the disease; double ovum twins, on the other hand, have the same fate as children of two successive pregnancies, i. e., either, neither, or both may be infected. Adequate treatment of the syphilitic mother during pregnancy will result in a nonsyphilitic infant if the treatment is instituted before the fetus is infected. Subsequent pregnancies are not protected unless treatment is continued. Placentas of syphilitic infants show characteristic diffuse microscopic changes in 27 per cent. of cases. When such changes are present the infant later proves syphilitic in every instance. Syphilitic infants at birth have Wassermann reactions in the following proportion: 37 per cent. negative, 18 per cent. weakly positive and 45 per cent. strongly positive. After the first few weeks or months all syphilitic infants have strongly positive Wassermann reactions. Syphilitic infants over 2 months of age fail to show clinical evidence of the disease at one examination in 50 per cent. of instances. Nonsyphilitic infants may give weakly positive Wassermann reactions at birth which become negative later, but never give strongly positive reactions at birth or any other time. Hutchinson's triad of interstitial keratitis, enamel defects of the upper central incisors, and nerve deafness are rare. In older children with active manifestations of syphilis the Wassermann reaction is positive in almost 100 per cent. Certain possible exceptions are noted, keratitis being present in each case. A diagnosis of active hereditary syphilis in a child with a negative Wassermann reaction is justifiable only when the clinical evidence of the disease is absolute and unmistakable.

Incidence of Syphilis.—The incidence of syphilis in 1,088 necropsies analyzed by Hala was 21.41 per cent. Cardiovascular diseases among the adults showed the highest degree of incidence. The percentage incidence of syphilis among patients of a large city hospital is estimated at 13.8 per cent.

Diffuse Syphilitic Mastitis.—Taylor reports a case of diffuse syphilitic infiltration of the whole breast, occurring in a woman, aged 40. The breast was three times the size of the companion breast. Its appearance was that of a red and blue mottled, glistening mass hanging from the chest wall. It was symmetrical, smooth to touch, and no nodules were palpable. The nipple protruded normally; the skin was not adherent and the mass was not adherent to the chest wall. It was of doughy consistency, but not edematous and no definite nodule or nodules could be palpated. On palpation the breast felt very much like a mass of cotton batting wadded under the skin, fat and superficial fascia. There were no painful areas, points of fluctuation, or increase in temperature of the mass. Palpation revealed the whole breast involved in the process. Under treatment with arsphenamin and mercury salicylate, the breast diminished in size rapidly and symmetrically, and at the end of the sixth week had returned to normal size. This patient has persistently had a two plus Wassermann reaction.

Syphilis Complement Fixation Reaction in Pregnancy.—In a series of ninety-four cases of pregnancy in which the bloods were examined by Smith during the last three weeks of gestation, falsely positive Wassermann reactions with the Kolmer complement fixation test for syphilis and with the ordinary routine technic were not observed. Smith suggests that the few cases of apparently falsely positive Wassermann reactions in pregnancy recorded in literature may be provocative Wassermann reactions in cases of syphilis.

Boston Medical and Surgical Journal

Dec. 7, 1922, **187**, No. 23

*Wassermann Tests in Boston Maternity Hospital. D. L. Belding and C. B. Adams, Boston.—p. 815.
Changes That Have Occurred in Past 25 Years Having an Effect on Progress of Medicine. A. W. Marsh, Worcester, Mass.—p. 821.
Backache. W. Dameshek, Boston.—p. 830.
Case of Bilharziasis from U. S. Marine Hospital No. 2, Chelsea, Mass. W. P. Clare, Chelsea, Mass.—p. 834.
*Tuberculosis of Ankle Joint and Tarsus. H. J. Fitzsimmons, Boston.—p. 838.
Accommodation to Anoxemia of High Altitudes. A. C. Redfied, Boston.—p. 841.
Clinical Significance of Sudden Abdominal Pain. A. M. Rowley, Hartford, Conn.—p. 844.
Erythema Multiforme Bullosum Caused by Arsenic. Report of Case. W. J. Macdonald, Boston.—p. 847.

Wassermann Reaction in Pregnancy.—In 5,198 routine cases in a maternity hospital, the Wassermann test showed some degree of positivity in 9.2 per cent., was definitely positive in 7.8 and strongly positive in 4.6 per cent. Only 9.8 per cent. of the positive cases gave definite clinical evidence of syphilis, although an additional 19.9 showed suspicious findings. Belding and Adams state that positive Wassermann tests, with cholesterolized antigens, in pregnant women are not comparable to similar tests in nonpregnant women owing to certain blood changes, and therefore do not either represent the actual incidence of syphilis in a community or the per cent. of positive tests in healthy nonpregnant women. Owing to longer exposure, the per cent. of positives increases with age and length of married life. The per cent. of positives increases inversely as the wealth of the patient, and also differs according to occupation. In Boston the urban rate is higher than the suburban and the highest class residential districts show the lowest per cent. of positives, which, in this instance, explains the lower suburban rate.

Tuberculosis of Ankle Joint and Tarsus.—From 1868 to 1910, the Orthopedic Clinic of the Children's Hospital of Boston, treated 7,474 cases of bone and joint tuberculosis.

Of these 7,474 cases 213 were of the ankle joint and bones of the foot. In the last ten years there have been treated 1,988 cases of bone tuberculosis; eighty-eight of these being involvement of the ankle joint and bones of the foot. From such comparisons, Fitzsimmons is impressed with the fact that tuberculous lesions in bones and joints are not as frequent as they were ten years ago. The results of various forms of treatment are discussed by Fitzsimmons. From a comparison of data, he feels that the operative treatment of tuberculosis of the ankle joint and tarsus in children is usually harmful. Time is not saved, deformity is not decreased, and motion is not preserved. When the infection is sharply localized so that a direct surgical procedure can be followed, it might be of distinct advantage to resort to careful excision. Unfortunately, at present this is not possible, and, therefore, most surgery is to be avoided. Incision of the soft parts in the direction of the supposedly affected bone or joint has not been of any benefit. The abscess which presents itself and which spontaneously ruptures generally protects the surrounding tissues from invasion and from overwhelming infection. The cases in the operative group that were followed by the quickest healing and usually by the best surgical results were those that had been submitted to small incisions of the fluctuating mass of an abscess about to spontaneously rupture. Tuberculosis of the ankle joint and tarsus in children should be treated conservatively. Local rest by fixation, protecting against the strain and mechanical pressures which the individual bones or points are subjected to, should be rigidly enforced. Heliotherapy definitely aids before as well as in the presence of sinuses. Operative interference should be resorted to only after careful consideration and then the plan of procedure should be definitely understood. There is a greater danger of secondary involvement and general tuberculosis following operations than without. A large proportion of cases of tuberculosis of the ankle joint and tarsus get good functional results with very little deformity, but are more likely to get these results in a shorter time by the nonoperative procedure.

California State Journal of Medicine, San Francisco

December, 1922, **20**, No. 12

*Speech Development in Orthopedic Cases. C. G. Stivers, Los Angeles.—p. 421.
Sacral Anesthesia in Urology. A. J. Scholl, Jr., Rochester, Minn.—p. 423
Intratracheal Insufflation Anesthesia. M. Kavanagh, San Francisco.—p. 425.
Bowel Obstruction Following Operations Occurring During Convalescing Period. A. Weeks and L. Brooks, San Francisco.—p. 428.
Absence of Prostate Associated with Endocrine Disease. H. Lisser, San Francisco.—p. 430.
Some Outstanding Features of Recent Progress in Surgery. G. Thomason, Los Angeles.—p. 431.
Hemorrhoid Problem. S. Hyman, San Francisco.—p. 434.
Necessity for Immediate and Thorough Roentgenologic Study of All Injuries to Spine. H. W. Chappel, Los Angeles.—p. 436.
Outlook in Neuropsychiatry. W. F. Schaller, San Francisco.—p. 438.
Posture in Its Relation to Nutrition. A. E. Meyers, San Francisco.—p. 440.

Speech Development in Orthopedic Cases.—In a study of all the admissions to the Orthopedic Hospital School in Los Angeles during four years Stivers found that out of the 1,044 cases there were eighty-two cases of speech defect in addition to the orthopedic troubles. These cases were found in children affected with spasm, incoordination, ataxia, polioencephalitis and faulty postures. Normal children of school age show from 1 to 2 per cent. of speech defects. Crippled children of Los Angeles showed nearly 8 per cent. of speech defects, an example of the well known fact that persons with one developmental defect, in the motor or expressional system, are apt to show other defects.

Florida Medical Association Journal, St. Augustine and Jacksonville

October, 1922, **9**, No. 4

Aims of Gastro-Enterologist. E. B. Milam, Jacksonville.—p. 63.
Some Methods of Delivery of Occiput Posterior. E. W. Ayers, Coconut Grove.—p. 67.
Local Anesthesia Applied to Railway Surgery. J. E. Boyd, Jacksonville.—p. 69.
Bodily Mechanics. L. F. Carleton, Tampa.—p. 72.

Journal of Bacteriology, Baltimore

November, 1922, **7**, No. 6

Method for Isolation of Bacteria in Pure Culture from Single Cells and Procedure for Direct Tracing of Bacterial Growth on a Solid Medium. J. Orskov, Copenhagen, Denmark.—p. 537.
Bacterial Autolysis. W. S. Sturges and L F Rettger, New Haven, Conn—p. 551.
Bacillus Hemoglobinophilus Canis (Friedberger). T. M. Rivers, Baltimore.—p. 579.
Salt Effects in Bacterial Growth. III. Salt Effects in Relation to Lag Period and Velocity of Growth. J. M. Sherman, G. E. Holm and W. R. Albus, Washington, D. C.—p. 583.
"Color Standards" for Colorimetric Determination of H-Ion Concentration. L. S. Medalia, Boston.—p. 589.
Cause of Explosion in Chocolate Candies. J. Weinzirl, Seattle.—p. 599.
Micro-organisms Concerned in Oxidation of Sulphur in Soil. IV. Solid Medium for Isolation and Cultivation of Thiobacillus Thiooxidans. S. A. Waksman.—p. 605.
Id. Bacteria Oxidizing Sulphur Under Acid and Alkaline Conditions. S. A. Waksman.—p. 609.

Military Surgeon, Washington, D. C.

December, 1922, **51**, No. 6

Relations of United States Military and Public Health Service to Civil Practice. A. W. Boswell.—p. 609.
Brief Summary of "Congrés International de médecine et de pharmacie militaires." W. S. Bainbridge.—p. 614.
Use of Automatic Absorbable Metallic Sutures and Ligatures. J. S. Gomez.—p. 620.
Military Surgeon as Specialist. D. N. Carpenter.—p. 624.
Public Baths and Public Athletic Agencies as Factors in Raising Physical Standard of American Youths for Military Service. C. C. Demmer.—p. 632.
Some Changes That Have Taken Place in Duties and Activities of Naval Medical Officers, Afloat. C. E. Riggs.—p. 639.
Bronchopneumonia; Incidence and Diagnosis. W. A. Bloedorn.—p. 646.
Emergency Treatment of Water for Drinking Purposes. A. P. Hitchens.—p. 657.
Preventive Medicine and Its Relation to Military Medicine. R. F. Jones.—p. 663.

New Jersey Medical Society Journal, Orange

December, 1922, **19**, No. 12

Concerning Headaches; This Symptom as an Aid to Diagnosis. A. Cramer, Jr., Camden.—p. 347.
Public Health Administration in New Jersey. R. B. Fitz-Randolph.—p. 350.
Newer Phases in Treatment of Asthma. G. P. Meyer, Camden.—p. 356.
Unrecognized Syphilis. B. P. Thom, New York.—p. 363.

New Orleans Medical and Surgical Journal

November, 1922, **75**, No. 5

Abdominal Trauma. R. O. Simmons, Alexandria.—p. 223.
*Blood Pressure Observations in Psoriasis, Lichen Planus and Erythematous Lupus. J. N. Roussel.—p. 228.
Nonoperative Treatment of Urethral Stricture. H. W. E. Walther, New Orleans.—p. 231.
When Diseased Gallbladder Becomes Surgical. L. C. Chamberlain, New Orleans.—p. 238.
Fractures of Leg. I. Cohn, New Orleans.—p. 241.
*Radium in Treatment of Myelogenous Leukemia. A. Henriques and L. J. Menville, New Orleans.—p. 247.

Blood Pressure in Psoriasis, Lichen Planus and Erythematous Lupus.—In these three diseases Roussel has found almost a constant low pressure which seemed to drop as the disease progressed. In lichen planus the blood pressure appears to be low from the beginning, but in psoriasis and lupus erythematosus the pressure was generally lower in the old cases than in the early ones, mostly ranging in the old cases between 85 and 95 mm. In several cases of psoriasis of many years standing the eruption has disappeared entirely by simply raising the blood pressure from 85 to 120, only to see it reappear when the blood pressure dropped.

Radium Treatment of Myelogenous Leukemia.—Henriques and Menville report their observations in the treatment of chronic myelogenous leukemia by the surface application of radium over the spleen. One patient is in good condition eighteen months and another fifteen months since treatment began. A third patient shows a similar improvement in the past eight months. An enormous spleen, extending almost to the right lateral abdominal wall and almost to the symphysis pubis and protruding markedly both toward the front and the left, has been so reduced in size that it cannot be palpated fifteen months after treatment began. The white cells have shown a progressive decrease to the neighborhood of 20,000. The myelocytes have shown a marked reduction. The red cells in two cases increased from 2,000,000 to above

5,000,000 in about ninety days. The hemoglobin has shown a marked rise. These results were accomplished by a total dosage of from 2,200 to 2,400 mg. hours spread over four areas near the center of the spleen, through the skin, repeated monthly. The dosage employed at each sitting was from 550 to 600 mg. hours.

New York Medical Journal and Medical Record

Dec. 6, 1922, **116**, No. 11

Peptic Ulcer with Deformities of Viscus, Evidenced by Roentgen Rays, Changes for Better by Treatment. M. Einhorn, New York.—p. 613.
Phases of Gastrointestinal Infection, Pathology and Treatment. G. R. Satterlee, New York.—p. 619.
Intestinal Infections and Toxemias and Their Biologic Treatment. N. P. Norman and A. A. Eggston, New York.—p. 623.
*Incidence of Pain in Upper Left Quadrant of Abdomen. J. Friedenwald and J. W. Martindale, Baltimore.—p. 627.
Preoperative and Postoperative Treatment of Colon Malignancy. R. F. Carter, New York.—p. 630.
Cancer of Stomach. A. W. Hammer, Philadelphia.—p. 634.
Nonrecurrence of Gastric Cancer After Operation. S. Basch, New York.—p. 636.
*Study of Connective Tissue Changes in Gallbladder. N. D. C. Lewis and F. A. Reuter, Washington, D. C.—p. 640.
Effect of Magnesium Sulphate on Liver and Biliary Apparatus. J. C. Hemmeter, Baltimore.—p. 645.
Therapeutic Value of Duodenal Tube. C. D. Aaron, Detroit.—p. 648.
Chronic Duodenal Obstruction. E. P. Quain, Bismarck, N. D.—p. 651.
Experimental and Clinical Observations on Simplification of Intestinal Flora. C. Pope, Louisville, Ky.—p. 654.

Incidence of Pain in Upper Left Quadrant of Abdomen.—Observation of 1,134 cases in which an attempt was made to tabulate only those cases in which upper left quadrant pain might conceivably occur has shown Friedenwald and Martindale that splenic hypertrophy was comparatively rare and only in a small number of cases (1 per cent.) was it the cause of upper left quadrant pain. Of this group but 8 per cent. were accompanied with discomfort or pain in the upper left quadrant revealing the fact, that pain was a rather rare occurrence in this region of the abdomen, and that this area was usually comparatively free of organic disease. The character of pain varied from a slight discomfort to a severe distress; was constant or intermittent, and frequently occurred coincidently with pain in other regions of the abdomen. Finally, the pain noted in the upper left quadrant of the abdomen may originate from lesions in various organs. It was most commonly produced by affections of the left kidney (twenty cases); of the colon (nineteen cases), less frequently of the female generative organs (sixteen cases), of the pancreas (eight cases) and of the spleen (fourteen).

Sarcoma of Gallbladder.—Lewis and Reuter report a case of sarcoma of the gallbladder in which a diagnosis of subacute appendicitis was made. The abdomen was entered and explored through a right rectus incision. The appendix was postcecal, rather long and fibrous in appearance, and firmly bound down by adhesions. The vessels were injected and stood out prominently. On examination the mobility of the stomach and duodenum was greatly reduced by bands running toward the liver, but otherwise there was nothing abnormal. The kidneys, spleen, and pelvis organs were negative, but in the region of the gallbladder a long firm mass was felt, decidedly of the consistency of liver tissue, attached to the under surface of the right lobe of the liver at about the point where one would expect to find the gallbladder. Further search failed to reveal a recognizable gallbladder. The appendix was removed by the usual method and a cholecystotomy was done. A single stone about the size and shape of a bantam egg was removed from the cavity. The patient had a severe epileptic convulsion. She died four hours afterward. The postmortem findings are reported in detail.

Rhode Island Medical Journal, Providence

December, 1922, **5**, No. 12

Endocrine Glands. F. T. Fulton, Providence.—p. 347.
General Principles of Treatment of Skin Diseases. R. Blosser, Providence.—p. 352.

Southern Medical Journal, Birmingham, Ala.

December, 1922, **15**, No. 12

Nutrition: Most Important Public Health Problem of Today. S. Harris, Birmingham, Ala.—p. 955.
*Aneurysm of Heart Complicated with Chronic Mediastinal Pericarditis. E. Smith, St. Louis.—p. 962.
Spontaneous Pneumothorax in Pulmonary Tuberculosis: Occurrence and Management. I. S. Kahn, San Antonio, Tex.—p. 972.
Active Immunization Against Diphtheria. A. S. Root, Raleigh, N. C.—p. 980.
Causes and Treatment of High Blood Pressure. B. W. Fontaine, Memphis.—p. 987.
Some Evidences of Inadaptability in Ex-Service Psychoneurotics. G. H. Benton, Gulfport, Miss.—p. 992.
Diagnosis of Sterility in Women. M. Y. Dabney, Birmingham, Ala.—p. 1001.
Correlation of Pathology and Medicine and Surgery. K. M. Lynch, Dallas, Tex.—p. 1005.
Correlation of Physiology and Surgery. F. K. Boland, Atlanta, Ga.—p. 1007.
Use of Full Time Teachers in Clinical Medicine. G. C. Robinson, Baltimore.—p. 1009.
Full Time Clinical Departments. G. Dock, St. Louis.—p. 1013.

Aneurysm of Heart with Mediastinal Pericarditis.—Smith believes that his case suggests the following points as important in the diagnosis of cardiac aneurysm: (1) careful attention to possible antecedent history of a more or less rapid occlusion of a coronary vessel through thrombosis; (2) finding of two separate points of cardiac impulse in the cardiac area; (3) determination of an abnormal cardiac outline through careful physical and roentgen-ray examination. It is important to determine a possible complicating chronic adhesive pericarditis through (1) the presence of fixation of heart dulness; (2) retraction in the region of the apex and Broadbent's sign; (3) finding through careful roentgen-ray study evidence of adhesions of the pericardium to the surrounding structures. Should cardiac aneurysm be found to be complicated with chronic adhesive pericarditis, then it may be justifiable after full explanation of the situation to the patient to recommend cardiolysis to lessen the strain on the cardiac muscles by the constant systolic pull of the harness of adhesions; for the persistent tugging of these adhesions will break down the cardiac compensation just as certainly as will a bad valve lesion or any similar cause of constant cardiac overwork. On the other hand, cardiac aneurysm may occasionally heal, especially if relieved of pericardial adhesions. If not the cardiac compensation will probably be maintained longer without than with the added strain of chronic mediastinopericarditis. Not any more danger is involved to life in this procedure than in that of wiring a thoracic aneurysm, though both procedures are, of course, largely palliative.

Surgery, Gynecology and Obstetrics, Chicago

December, 1922, **35**, No. 6

Physician and Surgeon. H. Cushing, Boston.—p. 701.
Anatomy and Identity of "Encysted" and "Infantile" Hernia. A. V. Moschcowitz, New York.—p. 711.
Levator Hernia (Pudendal Hernia). H. C. Chase, New York.—p. 717.
Nature and Significance of Renal Stasis. E. G. Crabtree, Boston.—p. 733.
Recurrent Renal Calculi. J. D. Barney, Boston.—p. 743.
*Primary Tumors of Ureter. P. W. Aschner, New York.—p. 749.
*Elusive Ulcer of Bladder. H. L. Kretschmer, Chicago.—p. 759.
*Results of Operations for Cancer of Lip at Massachusetts General Hospital from 1909 to 1918. C. C. Simmons and E. M. Daland, Boston.—p. 766.
*Resuscitation, Intracardiac Injections. D. W. Crile, Chicago.—p. 772.
Forward Dislocation of Both Bones of Forearm at Elbow. I. Cohn, New Orleans.—p. 776.
Subastragaloid Dislocation of Foot; Three Cases. B. H. Moore, Chicago.—p. 788.
Fractures of Both Bones of Forearm with Great Dislocation Treated with Pin Traction. R. A. Koopmans, Rotterdam, Holland.—p. 793.
New Traction and Suspension Bone Tongs. E. J. Hoglund, Chicago.—p. 800.
Transsacral Nerve Block Anesthesia in Surgery of Pelvic Floor and Viscera. W. R. Meeker and E. B. Frazer, Rochester, Minn.—p. 801.
Pelvic Measurements by Roentgen Ray. A. B. Spalding, San Francisco.—p. 813.
*Aseptic Method of Intestinal Aanastomosis. W. C. Burket and W. B. McClure, Evanston, Ill.—p. 816.

Primary Tumor of Ureter.—Aschner found forty-seven cases of primary epithelial tumors of the ureter recorded in the literature. Of these only four were squamous cell carcinoma. One case is reported. It was a hydronephrotic, infected kidney with bifid pelvis, with leukoplakia, and squamous cell carcinoma of the upper ureter. The cases previously recorded are analyzed.

Elusive Ulcer of Bladder.—Fourteen cases are reported by Kretschmer. Of the eight patients operated on, one is having a relapse and another has pus and staphylococci in the urine.

The remaining patients consider themselves well; that is, they are free of symptoms. Of the remaing four cases, two are no longer under observation and in the other two there has been an improvement, without any treatment. However, these two cases are not entirely free of symptoms.

Results of Operations for Cancer of Lip.—One hundred and seventy-two cases of primary cancer of the lip were admitted to the hospital during a ten years period together with fifteen cases recurrent from previous operation. No attempt has been made to determine the end-results in the recurrent cases or those in which no operation was performed. Of the remaining 163 cases, the end-result is known in 122 instances. The radical operation was performed in 122 cases with the removal of the glands from one side of the neck in seventy-three and from both sides in forty-nine. There were three postoperative deaths in the series of 122 radical operations, an operative mortality of 2.5 per cent. In sixteen patients in whom the growth was extensive it was found impossible to close the defect in the lip in the usual manner without tension or without making the oral opening too small. Some form of plastic operation was performed to remedy the defect. Of the fourteen patients in this group who have been traced, ten have died of a recurrence of the disease, while only four (28.3 per cent.) are living and well. Of the 122 cases the end-result is known in 103, but in five cases the data are inconclusive, the patients having died of some other disease within the three-year limit without recurrence. Of the remaining ninety-eight cases, sixty-eight patients are living and well without evidence of the disease, or have died of other cause more than three years after operation, while thirty are dead; twenty-seven from a recurrence of the disease and three as a result of the operation. This gives 68.1 per cent. cures following the radical operation. The percentage of cures in the cases in which metastatic cancer was demonstrated in the glands removed was much smaller than in the cases in which no metastases were found. In nineteen traced cases in which the glands were involved by the disease, five patients are well (27.7 per cent.), while in the seventy-two conclusive traced cases in which no cancer was found in the glands, sixty-three patients are well (86.6 per cent.). Of the thirteen patients dying of a return of the disease, the site of the recurrence is known in nine. In four patients the recurrence was in the glands of the neck only, in four it was both glandular and local, and in one it was local only. If 27 per cent. of the cases in which metastatic cancer is demonstrable in the glands removed from the neck are cured by a radical operation, it is presumable that a certain number of cases in this group would have been cured if the more extensive operation had been performed. The average length of life of all patients dying of recurrence from the date of operation was 23.3 months. In cases in which the glands removed at operation showed cancer, the length of life was slightly shorter than the average (21.7 months). With one exception in all fatal cases the recurrence or death occurred within the three-year limit. One patient died of glandular recurrence seven years after the primary operation.

Intraventricular Injection of Epinephrin in Cardiac Failure.—Crile reports a case of cardiac and respiratory failure due to chloroform and shock in which direct cardiac massage and stimulation combined with artificial respiration failed to resuscitate. Intraventricular injection of epinephrin, 10 c.c. of a 1:1,000 solution (after at least fifteen minutes of complete cardiac failure) resuscitated cardiac function. Respiration returned after forty-five minutes. Four other cases are cited.

Aseptic Method of Intestinal Anastomosis.—The method described by Burket and McClure is dependent for success on an instrument formed of reciprocal male and female halves.

West Virginia Medical Journal, Huntington

December, 1922, **17**, No. 6

Atropin and Hypertonic Infant. A. A. Shawkey, Charleston.—p. 201.
Group Practice Menace. J. E. McDonald, Logan.—p. 204.
Anorectal Infections. E. H. Terrell, Richmond, Va.—p. 206.
Lueside. P. Seydel, Nitro.—p. 212.
Treatment of Acute Melancholia. E. W. Fell, Cincinnati.—p. 222.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Dermatology and Syphilis, London

November, 1922, **34**, No. 11

Question of Sensitiveness to Nonbacterial Toxins and Proteins. A. Whitfield.—p. 331.
Exfoliative Dermatitis Following Administration of Arsenobenzol and Its Derivatives. D. Lees.—p. 339.
Treatment of Psoriasis Vulgaris by Intravenous Injections of Sodium Salicylate. J. Bravo.—p. 353.

British Medical Journal, London

Nov. 25, 1922, **2**, No. 3230

*Diagnosis and Treatment of Cholelithiasis. R. Morison.—p. 1005.
*Id. F. Macrae.—p. 1008.
Treatment of Nonmalignant Affects of Colon. I. W. A. Lane.—p. 1014.
Id. G. Waugh.—p. 1016.
Id. H. M. W. Gray.—p. 1020.
Id. H. J. Paterson.—p. 1023.
Id. A. J. Walton.—p. 1024.
*Operative Treatment of Difficult Hernias. H. S. Souttar.—p. 1024.
Bacteria of Tonsils and Adenoids. N. Wall.—p. 1025.
*Clinical Thermometer in Prevention of Pulmonary Tuberculosis. E. Clark-Jones.—p. 1026.
Acute Proctitis Causing General Peritonitis and Death. W. H. Du Pre.—p. 1027.
Fibroids Complicating Septic Abortion. F. H. Wallace and G. Wilson.—p. 1028.

Treatment of Cholelithiasis.—Morison's present views are against cholecystectomy as the operation of election in gallstone cases. He raises an objection to the various textbook descriptions of cholecystitis. The terminations of cholecystitis are the same as the end results of inflammation everywhere in the body. They may be catarrhal, or ulcerative, or phlegmonous, or suppurative, or gangrenous, or anything else adding to the difficulties of understanding them, but that should cease to be the teaching of writers who are to train the younger surgeons.

Drainage Following Gallbladder Operations.—Believing that the real danger in cholelithiasis lies in the infection accompanying it, Macrae has always arranged for drainage when cholecystostomy or cholecystectomy has been performed, and for the same reason he always hesitates to do the so-called "ideal" operation of cholecystomy.

"Darning" a Hernia.—Souttar uses a specially prepared mercurialized silk in his herniotomies because it is not absorbed, but is so far assimilated by the tissues as to become an integral part of them, providing a scaffolding around which fibrous tissue may be laid down, but preventing the stretching to which such tissue is liable. Microscopic sections show the strands of silk impregnated with fibrous tissue cells, the whole forming substantially a single structure. He uses the term "darning the hernia" for this operation.

Use of Thermometer in Preventing Pulmonary Tuberculosis.—Clark-Jones urges the claims of the clinical thermometer, understood and properly used, in the prevention of tuberculosis by demonstrating the slight persistent fever, and thereby ensuring rest. Pulmonary tuberculosis is manifested in its earliest inroads by a feeling merely of being below par, together with a slight degree of fever, which usually goes unrecognized.

Dec. 2, 1922, **2**, No. 3231

Degenerative Diseases of Liver. H. Rolleston.—p. 1055.
Prognosis and Treatment of Chronic Renal Disease. H. Maclean.—p. 1067.
Acute Myelogenous Leukemia: Aplastic Anemia. R. A. Fleming and J. Davidson.—p. 1074.
*Case of Intrapericardial Aneurysm of Aorta. B. T. Parsons-Smith.—p. 1075.
*Present Value of Widal Reaction in Inoculated Subject. A. G. Shera.—p. 1076.
*Laparotomy for Intestinal Obstruction on Board Ship. V. Moxey.—p. 1077.
"Hemorrhagic" Chicken-Pox. W. F. Shanks.—p. 1077.
Acute Meningitis Following Influenzal Mastoiditis. F. Muecke and W. H. Sarra.—p. 1077.

Intrapericardial Aneurysm of Aorta.—In arriving at a diagnosis in this case Smith was largely guided by the following considerations: (1) The punctate heaving quality of the pulsation, which to palpation appeared synchronous with the

arterial pulse. (2) The presence of aortic reflux, which, in view of the positive complement fixation test, would suggest syphilitic disease of the aortic stem, and the conduction of the diastolic murmur from its seat of production over the entire region of the tumor and upward into the cervical vessels. (3) The fact that the aortic root and the first 2 inches of its ascending arch were situated within the confines of the pericardial sac. (4) That the direction of least resistance to the spread of a dilatation aneurysm proceeding from the aortic root would be downward within the cavity of the pericardium. (5) The fluoroscopic appearances which identified the shadow of the tumor with that thrown by the heart and great vessels, and the distinct line of continuity which connected the marginal extremity of the tumor with the right-hand border of the ascending aorta; also the definite character of the expansile pulsation which seemed to warrant the exclusion of new growth or encapsuled pericardial effusion. (6) The absence of pressure signs, which, moreover, would be hardly likely to complicate the early stages of an aneurysm originating within, and governed in the matter of the direction of its spread by, the pericardial investments.

Value of Widal Reaction in Inoculated Subject.—A positive Widal reaction in the inoculated subject, even four or five years after inoculation, Shera asserts, is of very doubtful value in paratyphoid fever unless of markedly high titer. This in no way detracts from the superlative value of the reaction in the noninoculated.

Laparotomy on Board Ship for Intestinal Obstruction.—In Moxey's case a knuckle of ileum, about 2 feet from the cecum, was incarcerated in a mesenteric pocket; this was withdrawn. The protruded intestines were replaced, no flushing of the peritoneal cavity was employed, and the abdominal wall was closed in the usual three layers. The patient recovered.

Lancet, London

Dec. 2, 1922, **2**, No. 5179

Medicolegal Position of Anesthetist. J. D. Mortimer.—p. 1155.
*Internal Secretion of Pancreas and Its Application to Treatment of Diabetes Mellitus. R. L. M. Wallis.—p. 1158.
*Mechanical Treatment of Severe Dropsy. J. W. Carr.—p. 1161.
Uses of Poisson's Formula. G. de M. Rudolf.—p. 1162.
Succession of Dominant Species in Mixed Bacterial Culture in Fluid Medium. W. W. C. Topley and H. A. Fielden.—p. 1164.
Observations on Canine Feces on London Pavements. H. C. Brown and G. E. F. Stammers.—p. 1165.
*Prevention of Catarrhal Deafness. M. Yearsley.—p. 1167.
The Anticoagulating Properties of Arsenobenzols. C. Flandin and A. Tzanck.—p. 1177.
Physiologic Study of Phenomena of Shock (Nitritoid Crisis) Produced by Intravenous Injections of Arsenobenzols. M. Pomeret.—p. 1178.
Treatment of Syphilis by Intramuscular Injections of Amino-Arsenophenol. M. Bloch.—p. 1179.

New Pancreas Preparation in Treatment of Diabetes Mellitus.—A preparation of the pancreas obtained by alcoholic extraction in vacuo has been made by Wallis. He asserts that this extract, when given by the mouth, is capable of reducing the blood sugar in certain cases of diabetes mellitus. By reducing the blood sugar, it is possible to increase the patient's tolerance to carbohydrates. The pancreatic extract is, therefore, useful as an adjuvant in treatment, particularly in cases of diabetes mellitus with complications—e. g., gangrene, threatened coma, etc. The duration of treatment as well as the actual dosage is determined by the general condition of the patient, the blood sugar, and the actual tolerance to carbohydrates.

Puncture of Skin in Treatment of Dropsy.—The simplest and most effective method of treating severe dropsy—either cardiac or renal in origin—which does not improve under the administration of the usual drugs, heart tonics, aperients, etc., Carr says, is merely to puncture the swollen feet or legs with a surgical needle. The punctures should be made where the swelling is most marked, usually over the dorsum and the malleoli, five or six punctures close together in each situation. From such punctures fluid will often flow steadily and continuously for several days, and if, as not uncommonly happens, they close before the dropsy has disappeared, fresh punctures may at any time be made in adjacent areas. There is not the slightest need for actual incisions into the subcutaneous tissues, such as are sometimes made. Before puncturing it is advisable to get the patient out of bed into a chair for a few hours, so that the feet become the most dependent parts and the edema fluid is able to gravitate down into them. The relief afforded by puncture is then more rapid. If possible the patient should remain in the chair while the drainage continues. Should ascites be present also, the drainage of the feet first relieves this, and then the edema gradually diminishes from the top of the thighs downward. Paracentesis of the abdomen is rarely necessary.

Prevention of Catarrhal Deafness.—Yearsley advocates the performance of submucous resection of the nasal septum to prevent deafness.

Medical Journal of Australia, Sydney

Nov. 11, 1922, **2**, No. 20

*Familial Hemolytic Splenomegaly. S. O. Cowen.—p. 545.
Prevention of Diphtheria. H. O. Lethbridge.—p. 561.

Familial Hemolytic Splenomegaly.—Cowen records the investigation of a remarkable series of cases of enlargement of the spleen associated with anemia and jaundice occurring in one family of forty-eight members. Of the twenty-six whose condition has been ascertained, fourteen were found to be affected with the family disease, while three others, now dead, whose records are too meager to justify a positive diagnosis, were probably affected.

Practitioner, London

November, 1922, **109**, No. 5

*Operation as Part of Conservative Treatment of Pott's Caries. W. I. de C. Wheeler.—p. 341.
Pneumonia and Its Treatment. N. Raw.—p. 357.
*Congenital Heart Disease and Its Prognosis. E. Bellingham Smith.—p. 365.
Syphilis and Marriage. R. P. White.—p. 380.
Some Essential Details for Complete Removal of Tonsils by Reverse Guillotine Method. M. Vlasto.—p. 389.
Phlyctenular Ophthalmia. W. F. Stiell.—p. 395.
*Treatment of Urinary Incontinence. K. R. C. Hallowes.—p. 400.
Books Which Have Helped Me. J. R. Keith.—p. 402.

Conservative Treatment of Spinal Tuberculosis.—The conservative treatment of spinal tuberculosis in children, Wheeler says, is best carried out without operation. All adults, in the absence of special contraindications, and who either cannot obtain or will not endure prolonged treatment by orthodox methods, should be given the benefit of operation. The additional fixation obtained by a bone graft often determines cure in a patient who has not responded to the recognized nonoperative treatment. An active primary tuberculous lesion is not per se a contraindication to operation. Prudence dictates three months' postoperative treatment in bed and rest should be advised until twelve months have elapsed.

Prognosis of Congenital Heart Disease.—Smith endeavors to show that the prognosis of congenital heart disease is not always as grave as it is stated to be. His paper is based on a study of forty-eight postmortem examinations and on the notes of eighty-six cases. It is interesting to note that among the abnormalities there were twenty-one cases of widely patent ductus arteriosus; twenty-four cases of actual deficiency in interauricular septums, such as a widely patent foramen and seven cases of patent interventricular septum, the effect in these cases varying from an almost complete absence to small orifices admitting only a probe. Transposition of the heart occurred only once and was not associated with any intracardiac defect. In a few cases the cardiac malformation was associated with defects elsewhere. Two children were mongolian imbeciles. One child had complete harelip and cleft palate, and another had spina bifida.

Faradism in Treatment of Urinary Incontinence.—Hallowes encourages the use of faradism in these cases. One pad is placed over the lumbar enlargement of the spinal cord and attached to an electrode. The other electrode is a metal sound or catheter introduced into the urethra, but not into the bladder.

South African Medical Record, Capetown

Nov. 11, 1922, **20**, No. 21

Gastric Ulcer.—P. N. Vellacott.—p. 409.

Archives Franco-Belges de Chirurgie, Brussels

July, 1922, **25**, No. 10

*Grafts of Bones of Embryos. R. Simon and M. Aron.—p. 869.
*Access to Biliary Passages. C. Willems.—p. 884.
*Mesenteric Gland Tuberculosis. J. Moreau and L. van Bogaert.—p. 888.
Rare Traumatisms of the Wrist. E. Delannoy.—p. 926.
Rare Malformation of Hands. A. Dhalluin.—p. 931.
Polysyndactylia. J. Verdelet and J. Chavannaz.—p. 934.
Bilateral Strangulated Hernia. A. Chalier and P. Wertheimer.—p. 938.
*Minor Displacement of Cervical Vertebrae. Gruget.—p. 939.
Fracture of Cervical Spine. E. Vandeput.—p. 942.
*Displacement of Cervical Vertebra. J. Cahen.—p. 945.
*Paralysis of Scapular Girdle. E. Smeesters.—p. 951.

Grafts of Embryonal Bones.—Simon and Aron have been experimenting with long bones and joints taken from guinea-pig embryos from 6 weeks to 2 months old transplanting them in other adult or young guinea-pigs. These implants survived longer than under other circumstances, but finally they obeyed the general laws regulating bone implants, namely, regression, the breaking down of the bone tissue and its reconstruction at the expense of the host. The interval before this occurred, however, was much longer with the embryo bones than under other conditions, especially when soft parts were transplanted with the graft.

Access to the Liver.—Willems' illustrations show how he raises the liver region by a cushion below and cuts from close to the median line slanting down into the flank, extending the incision farther the greater the difficulties in the operation. One assistant devotes himself exclusively to drawing out the liver and pivoting it on the costal arch until its inferior aspect is fully exposed. He turns his back to the patient and grasps the right lobe of the liver each side of the gallbladder, and turns the liver over on the thorax. This renders all other retractors, etc., unnecessary, while there is nothing to obstruct the field of operation as his hands are outside of the abdomen. This pivoting outward and upward of the liver allows the amplest access to the biliary passages, facilitating operations on the gallbladder and bile ducts to a surprising degree. During the whole intervention the assistant holding the liver must not stir. The liver has to be held immovable, and his thread gloves over rubber gloves aid in this. The operation concluded, the cushion below is withdrawn and the liver returned to place, with a wick against its lower surface. The muscles are sutured in two tiers, and the skin is sutured, clips not holding well for this incision. He has always had a solid reunion, with never any tendency to eventration.

Primary Tuberculosis of Mesenteric Glands.—Moreau and van Bogaert compare with a case personally observed in a girl of 19 sixty-nine cases from the literature. The tubercle bacilli pass from the intestines into the glands without producing lesions in the bowel. The grave complications liable to result in young and old and the complete cure in 94.5 per cent. when the focus was excised justify prompt intervention. The local and general health was excellent in the fifty-eight reexamined from six months to thirteen years afterward. Only two instances of recurrence are known; in one a complete cure followed the second operation, but the other patient succumbed to tuberculous peritonitis two or three years later. The exact diagnosis had not been made beforehand in any instance, and probably certain cases of "chronic appendicitis" have in reality been tuberculous mesenteric gland lesions, as is evidenced by the occasional discovery of extinct tuberculous foci in these glands.

Minor Displacement of Cervical Vertebrae.—Gruget reports a case which confirms the grave symptoms liable to be induced by a lateral subluxation of the third on the fourth cervical vertebra. The young man had fallen from a ladder and the only symptoms were the twisting of the head to one side and difficulty in moving the left arm and shoulder which were very painful. The dislocation could be seen in the roentgenogram taken through the opened mouth, a week after the accident. Extension was applied, the head of the bed raised, and by the fourth day the deviation of the head was much reduced. Then, with the patient horizontal, the neck and head were manipulated to bring the head back into place which was easily accomplished. The extension was then continued for two days, and the cure has been complete to date.

In Cahen's case the seventh cervical vertebra was dislocated backward in an automobile accident, and the right arm was paralyzed and extremely painful. The symptoms spontaneously improved for four months and then have been stationary for the two months to date. The man of 53 refuses operative treatment. The improvement seems to indicate that the compression was from some clot rather than from a bone lesion. Prompt intervention at the time might have warded off his disability.

Paralysis of Scapular Girdle.—In Smeesters' case the paralysis of the deltoid and other muscles of the scapular girdle in the girl of 15 dated from childhood, and the right arm was useless, the muscles atrophied. He describes his method of treatment by a tendon and muscle plastic operation, arthrodesis, plaster cast and physical training, the results surpassing all expectations. The recuperation of the soft parts of the scapular girdle would in itself alone, he says, justify the intervention.

Bulletin Médical, Paris

Nov. 11, 1922, **36**, No. 46

Nephritis in Children. P. Merklen.—p. 905.
Treatment of Arrhythmia. G. Lyon.—p. 910.

Bulletins de la Société Médicale des Hôpitaux, Paris

Nov. 10, 1922, **46**, No. 31

Pernicious Anemia After Arsphenamin in a Tabetic. J. Deroide.—p. 1460.
Familial Recklinghausen's Disease. G. Guillain.—p. 1462.
*Occupational Poisoning by Benzene. Faure-Beaulieu and Lévy-Bruhl.—p. 1466.
*Pernicious Anemia Due to Bothriocephalus. A. Cramer.—p. 1475.
*Meningococcus Septicemia. C. Gandy and G. Boulanger-Pilet.—p. 1477.
Pneumocardiac Reflex. J. Walser.—p. 1483.
*Amebic Hepatitis. Eschbach.—p. 1487.
Diabetes Insipidus and Moral Insanity Following Encephalitis. C. I. Urechia and N. Rusdea.—p. 1492.
Solitary Tubercle of Cervical Cord. C. I. Urechia and N. Elekes.—p. 1497.
Compression of Brachial Plexus and Subclavian Vessels by a Goiter. A. Sézary and P. Bartet.—p. 1499.
*Phenolsulfonephthalein Test in Chronic Pulmonary Tuberculosis. P. Merklen and Minvielle.—p. 1502.
*Arsphenamin in Treatment of Inherited Syphilis. M. Renaud.—p. 1506.
*Radiography After Intramuscular Injections of Iodized Oil. Boulan.—p. 1509.

Occupational Poisoning by Benzene.—Faure-Beaulieu and Lévy-Bruhl describe a severe anemia with hemorrhagic purpura and metrorrhagia in a woman employing benzene in her work. The patient showed also transitory signs of an affection of the spinal cord. They believe that similar symptoms occurring after injections of arsphenamin may be due to the benzene in the drug. Legislation should enforce sufficient ventilation of the rooms where benzene is employed.

Pernicious Anemia Due to Bothriocephalus in Three Sisters.—Since only a small percentage of people suffering from bothriocephalus develop pernicious anemia, Cramer believes that a predisposition is necessary. In his cases of three intellectually inferior sisters he points out the extremely unhygienic conditions they were living in. Only one of the patients survived.

Meningococcus Septicemia Without Meningitis.—Gandy and Boulanger-Petit's patient showed for two months and a half intermittent fever resembling malaria, due to meningococcemia of type B. No meningeal symptoms were noted. The cerebrospinal fluid was normal. The treatment consisted in intravenous injections of antimeningococcus serum and later of an autovaccine. The patient was cured. They hold that attacks of erythema and papules (sometimes punctate hemorrhages) with intermittent fever should lead to a consideration of meningococcemia.

Amebic Hepatitis.—Eschbach's case long presented the signs of a clinical pulmonary affection with progressive cachexia until a slight enlargement of the liver aroused the suspicion of amebic hepatitis. The result of treatment by emetin was prompt and perfect, as well as in a second case of intermittent fever and progressive cachexia plus slight apical changes. An abscess in the liver several months later confirmed the diagnosis.

Phenolsulphonephthalein Test in Chronic Pulmonary Tuberculosis.—Merklen and Minvielle compared the elimination

of phenolsulphonephthalein with the amount of urea in the blood and the Ambard index in seventeen patients. The test showed a parallel result except in some of the cases where the excretion of phenolsulphonephthalein was diminished. Some of them had a corresponding increase in the Ambard coefficient, while others, even with marked diminution of the excretion of phenolsulphonephthalein, had normal amounts of urea in the blood, and normal coefficients.

Arsphenamin in Treatment of Inherited Syphilis.—Renaud recommends a very intensive treatment.

Radiography After Intramuscular Injections of Iodized Oil.—Boulan proves by roentgenograms that intramuscular injections of iodized oil may give after five months shadows, that are darker than the bones. The resorption is so slow, that they could be distinguished even after three and a half years.

Paris Médical

Sept. 16, 1922, **12**, No. 37

*Blood Transfusion. A. Tzanck.—p. 249.
Surgery of Arteries: Two Cases. Delassus.—p. 252.
*Early Detection of Emphysema. G. Rosenthal.—p. 254.
Surgical Technic for Separation of Xiphopagus. Le Filliatre.—p. 256.
Alcoholism and Ambulatory Automatism. R. Benon.—p. 260.

Three Varieties of Blood Transfusion.—Tzanck discusses three kinds of transfusion. In very urgent cases after a great loss of blood it would be a mistake to try to have everything perfect: every donor is good and every apparatus. The main thing is to get a sufficient quantity of uncoagulated blood and inject it as near the heart as possible. To prevent coagulation, he takes in a vessel 2 c.c. of 10 per cent. solution of sodium citrate for every 100 c.c. of blood. In a very extreme emergency one could try to inject the blood directly into the heart by means of a syringe holding 50 c.c. and a needle 8 cm. long and of a caliber of 1.2 mm. Rhythmic injection of the blood may be a good means to excite the heart. Animal experiments were encouraging. The second variety are great transfusions, in which one has sufficient time to take all the necessary precautions. Tzanck mixes 0.5 c.c. of the blood of the patient with the same amount of the blood of the presumptive donor and injects it in the heart of a guinea-pig. A mixture of incompatible blood kills the animal. The whole test takes hardly five minutes. He injects the blood in four increasing fractions. The third kind of transfusion—small quantities of blood—medical transfusion—is very important. Its effect is much better than one would expect from the quantity of blood injected. It acts very well in hemorrhagic conditions.

Physiotherapic Syndrome of Emphysema.—Rosenthal points out that a healthy person can test the vital capacity of his lungs five times without any appreciable diminishing of the volume of expired air. He can get the same volume of air out, whether he is breathing slowly or fast. The emphysematous have a lower capacity at the start, and it diminishes in subsequent tests, because they become tired. Measuring of the respiratory force by manometers gives similar results. Rosenthal points out the frequency of nasal troubles in these cases, and recommends local nasal treatment and respiratory gymnastics.

Presse Médicale, Paris

Nov. 11, 1922, **30**, No. 90

*Hemiglossitis. G. Worms and J. Bercher.—p. 973.
Influence of Blood Pressure on Number of Erythrocytes. Lenaz.—p. 974.
*Affections of Lenticular Nucleus. Paulian et al.—p. 977.
Present Status of Radiotherapy for Sterility in Women. L. Cheinisse.—p. 977.

Hemiglossitis.—Worms and Bercher describe two cases of a very marked swelling of one half of the tongue. The affection is benign and heals soon. A third case was of a longer duration (four weeks).

Treatment of Affections of the Lenticular Nucleus.—Paulian and Brauner injected 1 to 2 c.c. of a 25 per cent. solution of magnesium sulphate into the spinal canal and 0.0005 gm. to 0.001 gm. of hyoscin subcutaneously. The combination prolongs the favorable effect of hyoscin on the respective troubles, especially in Parkinson's disease. Three cases are reported.

Nov. 18, 1922, **30**, No. 92

*Metabolism of Fats. H. Roger.—p. 993.
Benign Continuous Subfebrile States with Pleural Manifestations. C. Mantoux.—p. 995.
*Action of Hypophysis Extracts on Blood Coagulation. R. Feissly.—p. 997.

Metabolism of Fats.—Roger relates that not only the liver, but also the lung and the mesenteric glands are important organs for the metabolism of fats. It is not logical to deny the importance of the lungs for heat production. The blood acquires during its passage through the lungs a faculty for destruction of fat, which is not entirely due to the oxygen content. The action is confined to the erythrocytes. It is possible that some forms of obesity might be attributed to an insufficiency of the lungs.

Action of Hypophysis Extracts on Blood Coagulation.—Feissly finds that coctostable extracts of most organs, not only of the pituitary, act like weak solutions of peptones. The best technic for their use is by subcutaneous injections.

Progrès Médical, Paris

Nov. 11, 1922, **37**, No. 45

*The Mucous Membrane in Gastric Cancer. Loeper and Marchal.—p. 525.
*The Sympathetic and Periodic Psychoses. Laignel-Lavastine.—p. 529.
Basal Metabolism. J. Forestier.—p. 533.

The Functioning of the Gastric Mucous Membrane in Cases of Cancer of the Stomach.—Loeper and Marchal attribute the hyposecretion in cases of cancer of the stomach to the lesions of the whole mucous membrane found by other authors. These lesions are due to the irritating action of secretions of the tumor and to microbes. The proteolytic, lipolytic and amylolytic power of the secretions is partly due to disintegrated leukocytes. They recommend disinfection of the stomach by normal saline or chlorinated soda. Administration of hydrochloric acid and pepsin is advantageous.

The Sympathetic and Periodic Psychoses.—Laignel-Lavastine demonstrates the importance of the vegetative nervous system in some paroxysms of psychoses. These cases present usually signs of vagotonia, and can be favorably influenced by exciting the sympathetic (epinephrin) or depressing the vagus (atropin, etc.).

Riforma Medica, Naples

Oct. 23, 1922, **38**, No. 43

*Leptomeningitis of Otitic Origin. G. Gradenigo.—p. 1009.
*Omentopexy in Atrophic Cirrhosis of Liver. P. Fiori.—p. 1011.
Treatment of Trichophytosis by Intramuscular Injections of Iodid. P. A. Meineri.—p. 1015.
*Testicle Grafts. S. Voronoff.—p. 1017.

Treatment of Purulent Leptomeningitis of Otitic Origin.—Gradenigo advocates early and radical treatment of both the meningitis and the focus in the ear. Autovaccines are good and may be supplemented with specific serums, etc.

Diversion of Portal Blood in Atrophic Cirrhosis of Liver.—Fiori recommends the fixation of the omentum—omentopexy—in treatment, because it may arrest the progressing cirrhosis, and a better function of the liver may result.

Testicle Grafts.—Voronoff reports his experiments on animals dating from June, 1917, and on men since June, 1920. Even slices of testicles from cynocephalus monkeys implanted in human testicles gave good results. Although not pretending to explain the whole problem of senility by the atrophy of sexual glands, Voronoff believes that this is the main factor. The results depend very much on the site of the implantation. Voronoff prefers the peritoneum or the tunica vaginalis, because the transudation of plasma can keep up the nourishment of the graft before it is vascularized. Subcutaneous tissue and muscles cannot prevent a central necrosis, and the rest lasts merely for a few months. Voronoff opens the scrotum under local procain anesthesia and fastens the fragments of the implanted testicle at each end with catgut. The glandular surface faces the tunica vaginalis, which is scarified as well as the tunica albuginea. The fragments must not touch each other. Too small fragments are absorbed. The undivided testicle can be implanted only if it is small and from young animals. [This is stated to be the complete paper prepared for the French Surgical Congress in October. It was debarred from presentation by

publication of a summary of it in a daily paper just before the congress.]

Nov. 6, 1922, **38**, No. 45

*Blood Pressure and Extracts of Lymphatic Glands. V. Scarpa.—p. 1057.
Case of Whole Transverse Colon and Its Mesentery Contained in a Scrotal Inguinal Hernia. N. Novaro.—p. 1060.
A Case of Ambulatory Cerebrospinal Meningitis. G. Comporti.—p. 1063.
Present Status of Surgery of Benign Abdominal Tumors. E. Aievoli.—p. 1065.
Serum Treatment or Vaccine Treatment? I. Iacono.—p. 1066.

Lowering of Blood Pressure by Extracts of Lymphatic Glands.—Since extracts of lymphatic glands seem to have an action antagonistic to epinephrin, Scarpa tried their use in cases of hypertension. The extract was well tolerated and lowered the blood pressure a little (20 mm. mercury) twenty minutes after subcutaneous injection. The pressure returned very soon to the previous height.

Prensa Médica Argentina, Buenos Aires

Oct. 10, 1922, **9**, No. 13

Etiology of Diabetes Insipidus. C. Bonorino Udaondo and J. E. Carulla.—p. 333.
*Cancer of Testicle in Child. J. P. Garrahan and F. Ruiz.—p. 339.
*Myograph. V. Tedeschi.—p. 343.
Vitamin Treatment of Tuberculosis. R. F. Carrón.—p. 348. Cont'n.

Cancer in Testicle of Boy of Fourteen.—The whole was interpreted as tuberculosis of the testicle plus a hemorrhagic tuberculous polyserositis. Necropsy about a year after the first symptom—the swelling of the testicle—revealed that the testicle was the site of a primary cancer, and the pleura, peritoneum and pericardium showed diffuse carcinomatosis. In Chevassu's compilation of malignant tumors of the testicle, only 5 of the 128 cases were in children, and all these were under 5. Ruiz has compiled 16 additional cases, including the one here reported and one other, an embryoma, in a boy of 4.

Myograph.—Tedeschi expatiates on the advantages of the simplified vertical myograph of which he gives an illustrated description and tracings.

Oct. 20, 1922, **9**, No. 14

Secretion of Epinephrin and Nerves Involved. B. F. Houssay.—p. 377. Cont'd.
*Prophylaxis of Clots in Bladder. C. M. Squirru and L. Figueroa Alcorta.—p. 382.
*The Pituitary and the Inter-Brain. C. P. Waldorf.—p. 386. Conc'n in No. 15, p. 415.
*Acute Articular Rheumatism. S. Libarona Brian.—p. 394.
Iodized Tuberculins in Immunization Against Tuberculosis. J. Frenguelli.—p. 398.

To Prevent Blood Clotting in Bladder.—After operations and in case of hemorrhage from other causes, Squirru and Alcorta found that clots did not form when 10 c.c. of a 5 per cent. solution of sodium citrate was injected into the bladder. To date no untoward by-effects from this have been observed or known.

Disease of the Pituitary and Inter-Brain. — Waldorp describes in minute detail some cases of adiposis dolorosa, obesity, diabetes, etc., in which the combinations and course throw light on the etiology, pathogenesis and treatment, as he explains. His conclusion is that all these diseases need revision from the standpoint of their origin. Excessive or deficient functioning of the pituitary alone is responsible only for acromegaly, giant or dwarf growth, microsomias and nanosomias. The centers in the inter-brain or thalamencephalon are probably responsible for polyphagia, adiposis dolorosa and other forms of obesity, diabetes insipidus, glycosuria, dystrophia, somnolency and fever for which the pituitary has been incriminated hitherto. There seems to be some connection between the internal secretion of the pituitary and the thalamencephalon, as is evidenced in the benefit from pituitary treatment in diabetes insipidus, but no such benefit is apparent in adiposis and glycosuria of the alleged pituitary type.

Acute Articular Rheumatism.—Libarona Brian's treatment is a daily subcutaneous injection of a mixture of 1.5 gm. of sodium chlorid and 1.05 gm. of sodium sulphate in 50 c.c. of water. In his extensive experience with this treatment all the patients were cured without complications or recurrence. The cure followed most promptly in a case in which the interval since the onset was only seventy-two hours, while the disease persisted longest in a case with an interval of six days.

Semana Médica, Buenos Aires

Oct. 12-19, 1922, **2**, Nos. 41-42

*Transactions of National Medical Congress.—p. 731.

Hydatid Disease.—These two numbers of the *Semana* are devoted almost exclusively to the numerous reports on hydatid disease which was the subject appointed for discussion at the Second National Medical Congress which convened at Buenos Aires, Oct. 1 to 8, 1922. Echinococcus cysts were discussed from every possible standpoint, diagnosis, treatment, prevalence, prevention, pathology, etc., by Wernicke—who has since died—Parodi, Llambias, Lagos García, Copello, Carbonell, Greenway, Tumburus, Spangemberg, Saraleguí, Ricardo Finochietto, Navarro, and del Sel. Hydatid cysts in the lungs or peritoneum were discussed in particular by Escudero, Lanari, Finochietto, Ahumada and Carelli. The whole forms a remarkable presentation of the most advanced knowledge in regard to hydatid disease and its prophylaxis.

Deutsche medizinische Wochenschrift, Berlin

Oct. 20, 1922, **48**, No. 42

*Psychogenous Dyspepsia. I. Boas.—p. 1405.
*Result of Decompressive Trephining. Anschütz.—p. 1406.
*Blindness after Migraine. W. Löhlein.—p. 1408.
Yearly Fluctuations in Human Physiology and Pathology. K. Beckmann.—p. 1409.
Symptoms of Overburdening of Diseased Kidneys. F. Hirschfeld.—p. 1411.
*Metabolism in Disease of the Pituitary. R. Plaut.—p. 1413.
Influence of Posture on the Diuresis in Health. P. Neukirch and K. Neuhaus.—p. 1413.
Resistance of Tropical Malaria to Quinin. H. Schalk.—p. 1415.
Diagnosis and Treatment of Affections of the Testicles and Epididymis. L. Casper.—p. 1416.
Pleuritis. Goldscheider.—p. 1417.
Local Application of Drugs in Ophthalmology. K. Steindorff.—p. 1419.
Genesis of Roentgen Injuries. O. Strauss.—p. 1420.
Handling and Keeping of Injection Syringes and Needles. H. Kritzler.—p. 1421.
Apparatus for Restoring Shape to Sunken Nose. Freund.—p. 1422.
Fight Against Rabies in Russia. L. Poleff.—p. 1422.
Address at Centenary of German Naturforscher Society. A. Strümpell.—p. 1423.

Psychogenous Dyspepsia.—Boas emphasizes the importance of recognizing this disease. The history of the patient shows that there is usually a feeling of pressure, without strict relation to the meals. Though the patients speak of "pains," careful analysis shows that it is only a feeling of oppression. Globus without any other signs of hysteria is very common, and nervous nausea quite frequent. Psychotherapy is necessary and any restriction in diet is harmful.

Result of Decompressive Trephining.—Anschütz finds that palliative trephining accomplishes nothing with quickly growing tumors and very high intracranial pressure of long standing. Some benefit is derived with slowly growing malignant processes. The results are very good in benign or stationary malignant processes, if we operate early.

Blindness After Migraine.—Löhlein recommends in cases of migraine with ocular changes the use of amyl nitrite during the attacks to prevent blindness by its dilating action on the vessels of the eye.

Respiratory Metabolism in Diseases of the Pituitary.—Plaut finds that the pituitary regulates the specific dynamic influence of food.

Oct. 27, 1922, **48**, No. 43

Unity or Duality of Tuberculous Processes in Lungs. J. Orth.—p. 1437.
Dietary Problems in the Treatment of Gout. H. Strauss.—p. 1438.
Siedentopf's Photomicrographic Ocular. Kaiserling.—p. 1439.
*A New Function of the Spleen. K. Naswitis.—p. 1441.
Comment on Pincussen's "Estimation of Urobilin." A. Adler.—p. 1442.
Reply. L. Pincussen.—p. 1443.
Internal Treatment of Gonorrhea. W. Scholtz.—p. 1443.
*Respiratory Movement of the Apices. J. Kelemen and F. Kornfeld.—p. 1444.
Electric Ophthalmia at Moving Picture Studios. Reichert.—p. 1445.
Frequency of Inadequate Lactation. W. Kahn.—p. 1446.
A Typical Traumatic Affection of Head of Second Metatarsal Bone. Quirin.—p. 1447.
Disease of Prostate. Diagnosis and Treatment. Casper.—p. 1448. Cont'd.
Diagnosis and Treatment of Disease of the Digestive Tract. L. Kuttner.—p. 1450.

Minor Surgical Technical Points in Ophthalmology. K. Steindorff.—p. 1451.
Aspects of Scientific Criticism from the Legal Standpoint. F. Leonhard.—p. 1453.

A New Function of the Spleen.—Naswitis injected laked blood into the dog from which it was taken. It increased the amount of blood corpuscles only in normal dogs. It failed to have any influence in this line after splenectomy. He concludes, that the spleen has not only an inhibitory, but also a stimulating influence on the bone marrow.

Respiratory Movement of the Apices in Initial Infiltration and Adhesions of Pleura.—Kelemen and Kornfeld noted that in leaning forward a diseased apex showed greater respiratory movements than the healthy. Lack of respiratory movements is a sign of adhesion of the apical pleura.

Klinische Wochenschrift, Berlin

Nov. 11, 1922, **1**, No. 46

*Jaundice Due to the Reticulo-Endothelial System. F. Rosenthal and M. Fischer.—p. 2265.
Tonus of Heart's Action. Reinhard Ohm.—p. 2269.
*Intermittent Heterochromia of Iris. H. Curschmann.—p. 2271.
*Experimental Tar Cancers. R. Bierich.—p. 2272.
Virchow's Congenital Interstitial Encephalitis. H. Siegmund.—p. 2274.
Chloramin as Disinfectant. M. Grünwald and F. Bass.—p. 2278.
Prognostic Importance of High Speed of Sedimentation of Erythrocytes in Children with Tuberculous Bronchial Glands. Z. v. Bokay.—p. 2280.
Capsella Bursae Pastoris Not a Substitute for Ergot. T. Franz.—p. 2282.
*So-Called Abscesses of Sweat Glands in Axilla. F. Rost.—p. 2283.
Genesis of Urticaria. H. Mautner.—p. 2284.
Simplified Apparatus for Micro-Determination of Acetone and Beta-Oxybutyric Acid. A. Lublin.—p. 2285.
Significance of Liver and Muscles for Supply of Serum Proteins. W. Nonnenbruch and A. Gottschalk.—p. 2285.
*Bilirubin Reaction in Blood. Adler and Strauss.—p. 2285.
Heart Findings in 171 Athletes. H. Herxheimer.—p. 2286.
Blepharochalasis and Struma Plus Hypertrophy of Lip Glands. K. W. Ascher.—p. 2287.
Mentally Defective Children. T. Gött.—p. 2288.
Modern Points of View in Protection of Frontiers Against Epidemics. Frey.—p. 2291.
The Acting Substances of Ergot. E. Rothlin.—p. 2294. Cont'd.

Jaundice Due to the Reticulo-Endothelial System.—Rosenthal and Fischer were not able to prevent the formation of jaundice in animals by blocking the reticulo-endothelial system.

Intermittent Heterochromia of Iris of Nervous Origin.—Curschmann reports a case of ulcer of the stomach, in which the periods of pain were accompanied by a transitory discoloration of the iris of the side where the pains were felt.

Experimental Tumors of Animals.—Bierich finds that in the first stage after the continued application of tar, the fibers of connective tissue swell and elastic fibers multiply. Mast cells appear in numbers. All of these changes stop and even retrogress in the second stage, when the epithelium seems to overcome this barrier and grows into the depths. Since changes in the connective tissue can be produced by an application of roentgen rays or by repeated subcutaneous injections of arsenic, Bierich tried to prevent tar cancer formation in animals by these methods. His success speaks for the protective influence of connective tissue.

So-Called Abscesses of Sweat Glands in Axilla.—Rost attributes the abscess to an infection of lymphatic vessels. Roentgen-ray treatment gives good results.

Mechanism of Bilirubin Reaction in the Blood.—Adler and Strauss found that Hijman's direct reaction for bilirubin is connected with a lowering of the amount of globulins in the serum. Addition of globulins to the serum delays the appearance of the test. Electrolytes and other substances which dehydrate colloids, change the indirect into a direct reaction.

Münchener medizinische Wochenschrift, Munich

Aug. 18, 1922, **69**, No. 33

Indications for Surgical Treatment of Gallstones. F. Voelcker.—p. 1205.
Acute Yellow Atrophy of the Liver. G. B. Gruber.—p. 1207.
Puerperal Sepsis, Due to Gas Bacilli, plus Jaundice. W. Simon.—p. 1209.
Favorable Results of Sauerbruch's Cineplastic Method After Amputation of Arm. P. Jottkowitz.—p. 1212.
Turning of the Heart in High Position of Diaphragm. P. v. Zezschwitz.—p. 1214.
Influence on Leukocytosis of Irradiation of the Spleen. W. Förster.—p. 1215.
Bloodless Transplantation of Skin. W. Wolf.—p. 1217.
Instrument for Tying of Knots. K. Fecher.—p. 1217.
Ascarid in Liver. R. Veit.—p. 1219.
Comment on Kappis' "Free Bodies in Joints." G. Axhausen.—p. 1219.
Anemia of Infants Due to Goat's Milk. K. Blühdorn.—p. 1220.
History of Tuberculosis. G. Sticker.—p. 1221. Cont'd.
Medical Estimation of Diseases of Heart and Vessels. Grassmann.—p. 1224.

Oct. 6, 1922, **69**, No. 40

*Differential Diagnosis of Abdominal Affections. A. Läwen.—p. 1423.
Genesis of Renal Calculi in First Weeks of Life. König.—p. 1426.
Relation of Mode of Baking to Digestibility of Bread. Kestner.—p. 1429.
*Roentgen Irradiation in Hair Disease. Thedering.—p. 1430.
Choledochoduodenostomy in Place of Hepaticus Drainage by the Kehr Method. H. Flörcken.—p. 1431.
Birth Trauma of Brain. P. Schwartz.—p. 1431.
Treatment of Pertussis. Klotz.—p. 1431.
Examination of Abdomen in Abdominal Pain. F. Franke.—p. 1437.

Paravertebral Injections of Procain in the Differential Diagnosis of Intra-Abdominal Affections.—Läwen has been investigating to discover whether by means of paravertebral injections of a 2 per cent. solution of procain, by the resulting suppression of the pain in restricted areas, it may not be possible to establish a more accurate differential diagnosis of certain intra-abdominal affections. He had especially in mind the better differentiation of various forms of acute cholecystitis from appendicitis, gallstone colic from right renal colic, chronic manifestations of gallbladder disease from stomach symptoms, and acute appendicitis from incipient pneumonia or inflammatory affections of the adnexa. His experience covers ninety cases. In judging the results, it is important to decide whether the effect is a local effect on the nerves involved or a general effect from absorption of the anesthetic. Paravertebral injections of procain afford an opportunity of observing the segmental effect on various portions of the intestines and other viscera. He found that a single injection of 10 c.c. of a 2 per cent. procain solution to the right of the tip of the ninth spinous process; that is, at the tenth right thoracic nerve, will suffice completely to suppress a severe attack of gallstone colic. Further observations showed that procain injections at the right tenth thoracic spinal nerve are effectual not only on colic pains but also on persistent pains and sensitiveness to pressure in the gallbladder region and at the margin of the liver. The effect of the injection was especially marked in two cases in which the diagnosis "cholelithiasis" could not be surely established clinically. Other observations revealed the fact that this effect of the procain injected into the right tenth thoracic spinal nerve cannot be elicited unless the process is confined to the gallbladder and the bile ducts. His observations on paravertebral injections of procain in affections of the stomach and in colicky pains radiating from the kidney and ureter were not extensive enough to warrant final conclusions. The right tenth dorsal nerve is the one to reach in disease of the biliary apparatus; the right seventh dorsal nerve for the lesser curvature of the stomach, and the right first and second lumbar nerves for the appendix.

Roentgen Irradiation in Hair Disease.—Thedering has employed roentgen irradiation in alopecia totalis in place of the quartz lamp. He uses an irritative dose, which is a small fraction of the epilation dose—only from 1 to 2 erythem units—with a 0.5 to 2 mm. aluminum filter, at intervals of two weeks, from four different points on the scalp. Also in alopecia areata, seborrhea, etc., he has come to have more confidence in roentgen irradiation than in the quartz mercury lamp. One added advantage is that it reaches more satisfactorily small hidden patches or foci on the scalp of women.

Oct. 20, 1922, **69**, No. 42

*Hematuria and Nephritis in Appendicitis. W. Anschütz.—p. 1473.
*Callus Formation in Foot Without Fracture. W. Müller.—p. 1475.
*Prophylaxis and Treatment of Meningeal Syphilis with a New Endolumbal Technic. Gennerich.—p. 1475.
*Elimination and Determination of Arsphenamin in Urine. W. Autenrieth and H. Taege.—p. 1479.
Apparatus for Focusing Roentgen Rays on Tumors of the Pelvis. O. Gleichmann.—p. 1481.
*Treatment of Cardiospasm. J. Oehler.—p. 1482.
Comment on Schottmüller's "Cystitis and Cystopyelitis." H. Hohlweg.—p. 1482. Reply. Schottmüller.—p. 1483.
The Origin of Anatomic Knowledge in the Iliad and Odyssey. O. Körner.—p. 1484.
Hemorrhagic Diatheses. P. Morawitz.—p. 1487.

Hematuria and Nephritis in Appendicitis.—Anschütz points out that acute nephritis in patients suffering from appendicitis is an indication for appendicectomy. The nephritis is usually hemorrhagic, and it heals surprisingly quickly.

Callus Formation in Foot Without Fracture.—Müller attributes the formation of callus in the metatarsus without fracture to a reaction against insults and too great mechanical strain.

Prophylaxis and Treatment of Meningeal Syphilis with a New Endolumbal Technic.—Gennerich emphasizes the necessity of examining the spinal fluid in syphilitics. He describes his methods of endolumbal injections of arsphenamin with the use of two punctures.

Elimination and Determination of Arsphenamin in Urine.—Autenrieth and Taege find that scarcely 5 or 6 per cent. of the arsphenamin is eliminated by the urine, and this almost entirely in the first five hours. Arsenic can be demonstrated for a much longer time after the injection of arsphenamin; 30 mg. of arsenic was found in the liver in one man three months after the course of arsphenamin.

Simple Treatment of Cardiospasm.—Oehler gives the patient the stomach tube, and orders him to introduce it until it does not cause any discomfort. The patient thus cures himself in the course of time, sometimes in only a few days.

Wiener klinische Wochenschrift, Vienna

Oct. 19, 1922, **35**, No. 42

Tuberculosis from Clinical Standpoint. W. Neumann.—p. 817.
*Individualizing Treatment in Syphilis. J. Kyrle.—p. 820.
Aldehyd Differentiating Serologic Reaction. G. Beccadelli.—p. 823.
Technic of Microscopic Examination of Gallstones. Maresch.—p. 825.
Cesarean Section in Local Anesthesia. Waldstein.—p. 825.
Kielland's Forceps in Obstetrics. R. Stiglbauer.—p. 827.
Comment on Pewny's "Sedimentation Test." Starlinger.—p. 828.

Blood Picture and Individualizing Treatment in Syphilis.—Kyrle finds that a comparatively mild treatment is sufficient in cases with primary leukocytosis or which react strongly to injections of sodium nucleinate or similar products.

Oct. 26, 1922, **35**, No. 43

Disturbances of Digestion in Diseases of Pancreas. K. Glaessner.—p. 837.
*Duodenal Content and Gastric Secretion. Kauders and Porges.—p. 838.
Biology of the Reticulo-Endothelial Apparatus. K. Paschkis.—p. 839.
Combined Intravenous Treatment of General Paresis. W. Jacob.—p. 840.
*Resistance of Staining Against Boiling. K. Preis.—p. 841.
Typhoid Resembling Toxic Forms of Paratyphoid. v. Balogh.—p. 844.
Comment on Kogerer's "Hypnotic Analgesia." W. Neutra.—p. 845.

Influence of Duodenal Contents on Gastric Secretion.—Kanders and Porges applied different solutions directly into the duodenum of men. They found that hydrochloric acid (0.18 per cent.) and acetic acid (0.3 per cent.) inhibited the secretion of the stomach. Also high concentration of sodium chlorid, sulphate and glucose. Solutions of sodium carbonate and a 2.5 per cent. solution of magnesium sulphate did not disturb it.

Resistance of Tubercle Bacilli Staining Against Boiling.—Preis found that the human tubercle bacilli stained by carbolfuchsin retain the color after being boiled for five minutes, while other acid-fat bacteria, including the bovine type, are decolorized much quicker.

Zentralblatt für Chirurgie, Leipzig

Sept. 2, 1922, **49**, No. 35

Spinal Epimeningitis. H. Braun.—p. 1274.
Conduction Anesthesia Applied to the Leg. L. Drüner.—p. 1276.
*Restricted Use of Tampons in Incision Wounds. O. M. Chiari.—p. 1281.
Immobilization on Battle Field of Fractured Long Bones. A. Gregory.—p. 1282.
Slitting of Muscles to Increase Weight-Bearing Power for the Sauerbruch Arm. C. ten Horn.—p. 1284.
Remedying of Defects in Vessel Walls by the Gluing on of Rubber Patches. W. Müller.—p. 1287.
Remarks on Reyher's "Artificial Anus." V. Hacker.—p. 1289.
Remarks on Neudörfer's "Bellocq's catheter." O. M. Chiari.—p. 1290.

No Tampons in Incision Wounds.—Chiari explains his method of keeping open such small incisions on the fingers and hand as require it, by suturing the edges of the wound to the adjoining skin. Doubtless many surgeons have used the method, he thinks, but in the thirty cases in which he has used it the past six months the wounds have healed so well without the use of tampons that he thought it might not be superfluous to call attention to the method. To the wounds he applied ointments or sterile gauze, and hot hand baths are given, beginning the day after the incision.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Oct. 14, 1922, **2**, No. 16

*Gastric Cancer and Gastric Ulcer. F. A. Schalij.—p. 1726.
Chronic Arsenic Poisoning. U. G. Bijlsma.—p. 1729.
*Intussusception in Children. J. C. van der Ven.—p. 1733.
Speaking and Lip Reading by Deafmutes. J. J. Bruins.—p. 1737
Seroprophylaxis of Measles. C. M. Kroes.—p. 1746.
Case of Eunuchoid Giant Growth. C. van Luijt.—p. 1748.
Bilateral Mammary Cancer with Discharge Resembling Milk. H. L. Coopman.—p. 1753.
Present Status of Spirochetal Jaundice, Arsphenamin Jaundice and Acute Yellow Atrophy of the Liver. I. Snapper.—p. 1755.

Gastric Cancer and Gastric Ulcer.—Schalij presents evidence to sustain his view that old chronic gastric ulcers very rarely become cancerous. In 200 private patients with gastric cancer there were only 15 with a history of preceding stomach disturbance of any kind. In 6 of 97 operative cases there had been some slight and transient stomach trouble at some time, but nothing suggestive of ulcer. In 12 the history indicated old gastric ulcer as also in 3 of the 103 nonoperative cases. This percentage is small and is probably smaller still in reality, as the cancer may have developed at some other point in the stomach, remote from the old ulcer. He has encountered instances of this. He urges operative treatment in all cases of long persisting stomach disturbances but almost solely from the hope of finding an old hard ulcer, the removal of which may restore the patient to health. His operative group of cancer cases included 72 over 50, 18 between 40 and 50, 5 between 30 and 40, and one 23 and one 28 years old.

Intussusception in Children.—Van der Ven comments on the acuter course and the different factors of invagination in children. In a recent group of 10 cases in Lanz' service, the children were all under 2. All recovered in the 9 cases in which the interval from the first symptoms had been from three to thirty-six hours. The interval had been four days in the one fatal case. In 5 of the cases there had been a preceding period of diarrhea and gastro-intestinal derangement; some dietetic error is evidently a factor. In one case the cecum protruded from the anus as a large tumor, red and bleeding, and it was found that the child of 2 had been fed on herring with mustard sauce. Diarrhea had followed this and then intussusception. The invaginatum could not be palpated in 3 cases; all but 2 had blood in the stools. In another case the symptoms indicated invagination but they subsided spontaneously. The diagnosis in this case is still uncertain. The operation was made in all the cases as brief as possible; no atempt was made to fasten the loop to the abdominal wall as some recommend. There has been no tendency to recurrence in any instance. In 3 cases the appendix, in one a diverticulum was involved, and in one case some mesenteric glands were tuberculous. When pure blood is seen at the anus, the invagination has probably only just occurred. It thus is a favorable element, as the surgeon is more likely to get a chance to operate early. Lanz has been one of the pioneers in insisting on prompt operation for invagination and incarcerated hernia, his denunciation of taxis in 1902 having been a turning point.

Oct. 28, 1922, **2**, No. 18

Classic or Modern Preparatory Medical Training? G. von Rijnberk.—p. 1930.
*Experiences with 250 Cases of Diabetes. W. Hoogslag.—p. 1934.
Structure and Import of the Connective Tissue. G. C. Heringa.—p. 1952.
Modified Sulfoxylat-Salvarsan. P. Rinsema.—p. 1963.

Diabetes.—Hoogslag says that in 215 of his 250 cases of diabetes he found consanguineous marriages in 8 and 5 in this group of 8 were Jews. The Jews numbered 41 in his total of 250 cases. The ages ranged from 10 to 79 years, and the occupation was an unmistakable factor, in that conditions predisposing to corpulence favored diabetes also. Captains of passenger steamers are peculiarly predisposed as they have to preside at the meals and they get little exercise. Eating less and exercising more may cure without further measures. Lipogenous diabetes is found almost exclusively among the well to do. Lean diabetes is encountered in rich and poor alike, in children and especially in brain workers and in those with much responsibility. None of his diabetic patients complained of hunger but most of them of lassitude, both physical and mental, and of pains, in the most diverse parts

of the body. The practitioner must always bear in mind the protean nature of the manifestations of diabetes, and examine for sugar in every puzzling case. He cites a number of examples of patients applying to one physician after another before the diabetes was suspected; one was being treated for supposed sciatica; one by a skin specialist for a traumatic affection on the leg which refused to heal; another was being treated by a urologist for vulvar pruritus and dysuria. As no benefit followed, she consulted a female quack who recognized the diabetes and cured her by dieting. Hoogslag remarks that he was amazed at this quack's discernment, until a little later he was consulted by this quack who it seems had had diabetes herself for years. She had suffered from vulvar pruritus and had cured it on a physician's advice by the dieting, which she now advised in her turn. In another case pains in the face after exposure to wind were treated by the family physician for rheumatism without avail. Teeth were extracted and finally the rhinologist performed an intranasal operation. A surgeon then injected alcohol to block the nerve, but with only transient benefit. Lead poisoning was then suspected. Finally the patient took some urine to a quack but his sham examination revealed nothing. The man's daughter overheard a woman saying that the pains in the face from which she used to suffer had not returned since her doctor had found sugar and regulated her diet. The daughter then took a bottle of urine to the family physician, and he was mortified indeed to find 8 per cent. sugar in it. In a week the pains were completely cured.

He cites other cases which demonstrate the necessity for examining a specimen of the twenty-four hour urine or at least the urine of the whole day. Diabetes developing after an infectious disease was common in his experience. In 2 cases the onset was sudden and stormy and the course grave. One woman had repeated abortions after the onset of her diabetes. He deplores the heedlessness of the dentists who fail to advise examination of the urine when the teeth are showing the effect of diabetes. In 3 cases—all speedily fatal—falling of the hair was a prominent symptom. Abuse of alcohol, tobacco, sweets or beer did not seem to be an appreciable factor. The gynecologist, ophthalmologist or neurologist may be consulted first. In 43 per cent. of 207 cases, diabetes was known in the family. In some families the disease known in three generations ran a mild, in others a grave course. He never encountered a combination with gout or asthma, giant or dwarf growth. He discusses in detail his experience with treatment and the prognosis. In conclusion he warns that diabetes in children often escapes detection; in some cases there was alarming acidosis before the urine was examined. In others, symptoms suggesting ileus had led to unnecessary operations.

Finska Läkaresällskapets Handlingar, Helsingfors

September-October, 1922, **64**, No. 9-10

*Renal Diabetes. A. Johnsson.—p. 429.
*Differentiation of Spinal Cord Affections. W. Kerppola.—p. 442.
*Experimental Glycosuria. M. Savolin.—p. 456.
*Blood Cysts in Ovaries. B. Nyström.—p. 483.
The Life of the Mind. E. Ehrnrooth.—p. 493.
Metastatic Brain Abscess from Pleural Empyema. H. Hublin.—p. 524.

Renal Diabetes.—In the first of the two cases Johnsson analyzes, the man of 35 has been under observation for ten years, and the renal diabetes has persisted practically unmodified during this long period. The other patient is a woman of 44; her father had died from diabetes and her two brothers and one sister present mild diabetes, while she herself presents merely renal diabetes. It has persisted for sixteen years, unmodified, and independent of the diet. With alimentary glucose and starch tests, the sugar content of the blood increased in the woman as in normal conditions; in the man the increase was subnormal.

Differentiation of Disease in or Outside the Spinal Cord.—Kerppola concludes from his study of thirteen cases of spinal nervous disease that it is possible to determine whether the lesion is in or merely adjacent to the spinal cord. When the sensibility in the lower sacral segments is retained—especially the heat sense—this testifies to an extramedullary process. When the sensibility is abolished on one or both sides, the probabilities are in favor of some process in the spinal cord itself.

Experimental Glycosuria.—Savolin refers to the glycosuria which appears when the thoracic duct is ligated or its contents diverted. Its cause is still a mystery, and does not seem to have anything to do with diabetes mellitus. He experimented on cats with pancreas diabetes, and analyzes some clinical cases in which the thoracic duct had been torn or compressed. No glycosuria developed thereafter; possibly collaterals maintained the circulation. We have no grounds for assuming that the secretion of the pancreas reaches the blood by way of the thoracic duct.

Blood Cyst in Ovary.—A right tuberculous salpingo-oophoritis was probably responsible for the blood cyst in the woman of 26. The adnexa on that side were removed; those on the other side, and the uterus, seemed normal.

Hospitalstidende, Copenhagen

Oct. 25, 1922, **65**, No. 43

*Study of the Blood in Young Infants. P. Drucker.—p. 721. Conc'n.

Hemoglobin and Corpuscle Volume Percentage in Young Infants.—Drucker tabulates the findings from eighty-five healthy infants from 2 weeks to 2 years old, and tabulates the findings of Williamson and Appleton for comparison. He also compares the findings in fourteen children as determined in the different drops of blood, from the first to the fifteenth. The third drop is most instructive; the first two drops are generally darker in color, probably from less complete oxidation. For this and other reasons he insists that the findings are liable to be misleading unless the prick or incision in the ear is made quite deep and with a very sharp instrument (cataract knife). His figures show that the blood in infants is physiologically of a chlorosis type. This "chlorosis" reaches its maximum about the ninth month, which sustains the theory of a congenital store of iron. He adds that this physiologic tendency to the chlorosis type of blood in children persists nearly up to puberty, and this should be borne in mind in estimating the blood findings in a given case. The hemoglobin percentage (Haldane) divided by the cell volume gives a quotient which is low in the chlorosis type of anemia. Knowing, from tables he has compiled or quoted, the standard of this Hv quotient for each age, we can readily detect and estimate any deviation from normal, especially any tendency of the blood to become more concentrated.

Nov. 1, 1922, **65**, No. 44

*Colorimetric Estimation of Albumin. Jørgensen and Tørning.—p. 737.

Colorimetric Determination of Albumin.—Jørgensen and Tørning describe their modification of Claudius' method, and extol its advantages, saying that the whole procedure can easily be carried out in less than five minutes.

Svenska Läkaresällskapets Handlingar, Stockholm

Sept. 30, 1922, **48**, No. 3

*Structure of Goiters. A. Troell.—p. 125.
*Operative Treatment of Gastric and Duodenal Ulcers. E. Hedlund.—p. 167. Cont'd.

Structure of Goiters.—Troell gives 17 plates showing 63 photomicrograms, 4 of them colored, from 63 cases of goiter. Most of the cases were of the exophthalmic goiter type. Certain pathologic anatomic findings seem to be constant in the cases with diffuse disease, as he describes, although not in all stages. The thyroid secretion takes stains differently from the normal secretion or with ordinary goiter (basophil or acidophil). The follicles displayed an active hyperplasia. Round cell infiltration was found in 90 per cent. of the toxic goiters. Two pages of bibliography are appended.

Gastric and Duodenal Ulcer.—Hedlund analyzes his experience with 485 operative cases of gastric and duodenal ulcer, 1905 to 1920. The Weber test for occult blood was positive in 134. There was a history of profuse hemorrhage from the stomach in 31 cases, but in 45 per cent. in this group the operative findings were negative. Occult blood was found in 134, but the operative findings were negative in 26 per cent. of them. In 54 cases an ulcer was found although the Weber test had been negative. He tabulates the details of the present condition in all but 5 per cent. of the total. He classifies them according to the operation performed.